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Project 2007

Stephen Moffat, The Mouse Training Company



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ISBN 978-87-403-0028-4

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Contents

Section 1	**Introduction to MS Project**	**8**
1.1	What is Microsoft Project?	9
1.2	Understanding Project Management	10
1.3	MS Project Language	10
1.4	Terminology	12
1.5	Starting MS Project	15
1.6	MS Project - The Screen	16
1.7	Elements of the Default View	16
1.8	Views and Tables	17
1.9	The Tracking Gantt View	19
1.10	MS Project - Menus	20
1.11	MS Project - The Tool Bars	22
1.12	Project Management	25
1.13	The Stages of Project Management	26
1.14	Monitoring and Adjusting	27
Section 2	**Planning the Project**	**29**
2.1	Defining the Project	30
2.2	Project Planning	31
2.3	Complete the Project Plan	33



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2.4	Where to Begin with MS Project	33
2.5	The Calendar	35
2.6	Creating a New Base Calendar	36
2.7	Save the New Project File	38
2.8	Ending a Project Session	39
Section 3	**Task Entry and Linking**	**40**
3.1	Entering Tasks	41
3.2	The Task Entry Form	42
3.3	Tables and descriptions	43
3.4	Other Methods of Adding Tasks	45
3.5	Add Tasks	46
3.6	Linking Tasks	46
3.7	Defining the Summary Tasks	49
3.8	The AutoCorrect Feature	52
Section 4	**Resource Management**	**54**
4.1	Resources	55
4.2	Enter Resources	57
4.3	View Resources	59
4.4	Set Resource Calendars	60
4.5	Editing Resource Information	62
4.6	Review Resource Usage	63



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4.7	Inserting and Deleting Resources	64
4.8	Planned Time Scale	65
4.9	The Outlining View (Summary)	67
4.10	Promoting and Demoting Tasks	67
Section 5	**Display Data and Cost Factors**	**68**
5.1	Using Gantt Charts	68
5.2	Using Network Diagram Charts	70
5.3	Elements of the Network Diagram Chart	74
5.4	More about Tables	76
5.5	Applying Filters	78
5.6	Examining the Cost Factor	81
Section 6	**Printing and Reporting**	**83**
6.1	Page Setup	84
6.2	Printing Charts, Forms and Sheets	85
6.3	Reports Setup	85
6.4	What You Can Print	89
6.5	Reports by Report Type	94
Section 7	**Updating the Project**	**99**
7.1	More on the Task Information Form	99
7.2	Updating Task Data	100

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7.3	Adding New Tasks	104
7.4	Entering Task Names and Durations	105
7.5	Editing Task Details	105
7.6	Tracking Progress	107
7.7	The Gantt Chart and the Critical Path	108
7.8	Define an Update Point	110
7.9	Updating the Project	110
Section 8	**Multiple Projects**	**112**
8.1	Using Common Resources	113
8.2	Adding Sub Projects	113
8.3	Recurring Tasks	116
8.4	Task Relationships	118
8.5	More on Linking Tasks	119
8.6	Modifying and Deleting Task Relationships	120
8.7	Deleting Tasks	122
8.8	The Organizer	122
8.9	Create a Custom toolbar button	123

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Section 1 Introduction to MS Project

All graphics related to Microsoft in this book is in compliance with Microsoft guidelines and thus permitted by Microsoft.

After completing this section you will be able to:

- **Start MS Project.**
- **Open a Project File.**
- **Change the View of a Project.**
- **Use the Toolbars and Menus.**

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1.1 What is Microsoft Project?

MS Project is a **tool** to help you to plan projects, manage and update project information, and communicate the status once the project is under way.

The details of the project **tasks** and associated **resources** are entered into the system as a new project. The system will then display the data in such a way that the relationships of the tasks and their time scales can clearly be seen and potential problem areas identified.

Project data can be entered and/or viewed in a number of ways; the three principal formats are **charts**, **forms**, and **sheets**.

Charts can be either Gantt Charts or Network Diagram Charts both of which are a diagrammatic representation of the project data.

Chart views:	Gantt chart
	Network Diagram
	Resource Graph

Forms contain the data relevant to a single specific task or resource.

Form views:	Task form
	Resource form

Sheets are a table of all the Tasks or all the Resources that are part of the Project.

Sheet views:	Task sheet
	Resource sheet

The above can be displayed separately or in any combination of two e.g.

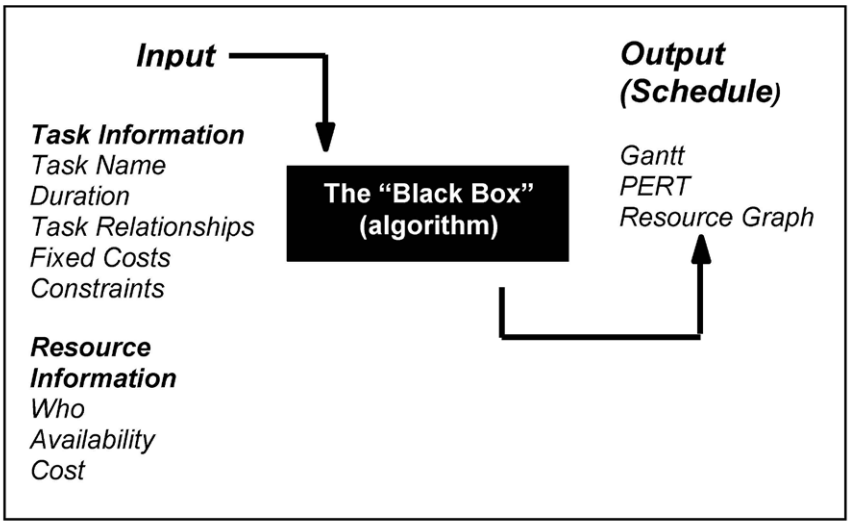
Combination view:	Task Entry View
Top half	Gantt chart
Bottom half	Task form

You can combine any two single-pane views on the screen to create a combination view. In a combination view, the information in the bottom relates only to the task or resources in the top view. The reason for having combination views is to make the job of entering and analysing information easier.

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1.2 Understanding Project Management

At the heart of every project management system is a *scheduling algorithm*. An *algorithm* is a mathematical or logical equation that solves a complex problem by breaking down the problem into simple steps. When scheduling resources and parameters are entered into it, the scheduling algorithm produces a project schedule that would be impossible for you to produce manually. This Input/Output model is displayed below.



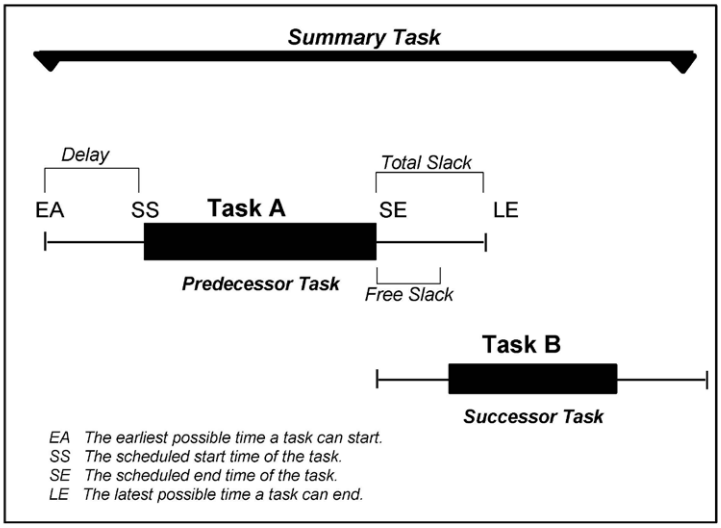
The Input/Output Model

In Microsoft Project, however complex your project may be, you can vary only information regarding tasks or resources. The information you provide is fed into the "Black Box" or algorithm, to provide you with a schedule in the form of a Gantt chart, Network Diagram Chart, or Resource Graph. In summary, the seven or eight parameters that you enter result in output that is a schedule displayed on various views and forms.

1.3 MS Project Language

The project management industry uses specific language and terminology. Some of these terms are illustrated below.

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Above: Clarification of Terms

In the illustration above, two tasks have a relationship. Task A is the *predecessor task,* and Task B is the *successor task*. Both of these tasks are considered to be non-critical because they both have flexibility. Let's focus on Task A. EA marks the earliest possible time Task A can start. SS marks the scheduled start time for Task A. By default, all tasks are scheduled to start at the earliest possible time, unless you specify otherwise. In the example above, Task A is scheduled to start later and therefore has been delayed. SE marks the scheduled end time for Task A, and LE marks the latest possible time Task A can end. Both of these tasks have slack, the amount of time a task can slip before it affects another task's dates or the project finish date. *Free slack* is the amount of time Task A can be delayed before affecting the start time of Task B, and *total slack* is the amount of time that Task A can be delayed before affecting the finish date of the project. The *summary task* summarizes Tasks A and B.

Critical tasks, not shown above, have no slack; therefore, delaying this type of task would mean delaying the project. A *critical path* is a series of critical tasks. All tasks on a critical path must be completed on time for the project to finish on time. If one task on a critical path is delayed, then the project is delayed. In Microsoft Project, a critical path is shown on the Gantt chart and the Network Diagram Chart in red.

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1.4 Terminology

Actual Usage	A measure of the resource expended in completing or partially completing a task.
ALAP	Refers to a task that should be started 'As Late As Possible', using all the free-float time available.
ASAP	Used to indicate a task that should be started 'As Soon As Possible', taking into account the start date of the project and its predecessor tasks.
Baseline	The original project plan, including the time schedule and resource and cost allocations. The baseline is used for comparing projected values to actuals, and facilitates the tracking and analysing of a project's progress.
Cost Variance	A project tracking function recording the difference between the budgeted cost of the work performed and the actual cost. Values below the baseline show an overspend and positive values denote cost savings.
Critical Path	The sequence of tasks or activities whose schedules and durations directly affect the date of overall project completion.
Earned Value	This is a measure of a project's performance, and is calculated by multiplying a task's planned cost by the percentage of work completed.
Float (slack)	The amount of time by which a non-critical task can be delayed before it affects another task's schedule.
Gantt chart	A graphical representation of a project schedule showing each task as a bar, the length of which is proportional to its duration. Many project management packages use a spreadsheet section to the left of the Gantt chart to display additional information.
Hammock Task	A task whose duration is calculated based on the time span between its predecessor and successor activities.
Histogram	A bar chart that shows resource workloads over a time period.
Lag	The amount of time between the finish of a predecessor task and the start of a successor task.
Lead	The amount of time that a task is permitted to start before its predecessor is finished.

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Loading	A measurement of resource usage on a task per unit of time. Different methods of loading may be used depending on what's available in your project management application and what's applicable for your particular project.
Loading(back)	A loading pattern that allocates resource usage as late in the task as possible.
Loading (contour)	The contour-loading pattern assesses which resources are left over after allocation to the critical tasks and spreads these resources among the remainder.
Loading(fixed)	When using fixed-loading algorithms, you specify the actual amount of resource allocated to the encompassing tasks.
Loading(front)	Front loading systems will attempt to allocate resources as early in the task as possible.
Loading(uniform)	This loading pattern allocates the resource usage on a by day basis in a task. This will usually be done without causing any one task to be over committed.
Milestone	A project event that represents a checkpoint, a major accomplishment or a measurable goal.
Negative float	Refers to an unscheduled delay before an actual task start time that must be recovered if the project is not to be delayed.
OBS codes	Organisational Breakdown Structure codes are used to identify tasks by resource groups in a hierarchical format. OBS codes are often used to reflect departmental structure in a company or code of accounts, and can also be used for filtering tasks.
Network Diagram	Project Evaluation and Resource Tracking charts, also called network diagrams. Network Diagrams are a graphical depiction of task dependencies, and resemble flow charts. Dependencies are shown by connecting lines or arrows indicating the work flow.
Predecessor	In dependency relationships, the predecessor is the task that must be started or completed first.
Project Management	Best defined as a body of knowledge, a set of principles, or techniques dealing with the planning and control of projects.
Resource	Any person, group of people, item or equipment, service or material used in accomplishing a project task.

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Resource Levelling	The process of resolving resource conflicts. Most project management programs offer an automated resource levelling routine that delays tasks until the resources assigned to them are available.
Resource Driven	Task durations determined by the program and based on the number of an allocation of resources, rather than the time available. Both individual tasks and entire projects can be resource-driven.
Sub-project	A group of activities which are treated as a single task in a master project schedule. Subprojects are a way of working with multiple projects that keep all the data in one file rather than in independent files.
Successor	In a dependency relationship between two tasks, the successor is the task that must await the start or completion of the other.
WBS codes	Work Breakdown Structure codes are used to identify tasks in a hierarchy. Many project management applications associate these codes with an outline structure. WBS codes can be used to filter the project schedule for tracking and reporting purposes.



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1.5 Starting MS Project

☞ Start MS Project

- Double-click on the **MS Project** icon.

Or

- Click the Start button, select Programs, select the Project icon.

☞ Using Help

- Click on the **Help** menu and select **Microsoft Project Help** or press [**F1**].
- The Project Help task pane will open on the right of the screen enabling you to search for assistance on a specific topic.

The Office Assistant

The office assistant offers tips on what you are doing, can answer questions you have, and enables you to ask questions in a non-jargon way. The office assistant usually appears as an animated paper clip.

To Use the Office Assistant

- Click on the **Help** menu and select **Show the Office Assistant**

Screen shot

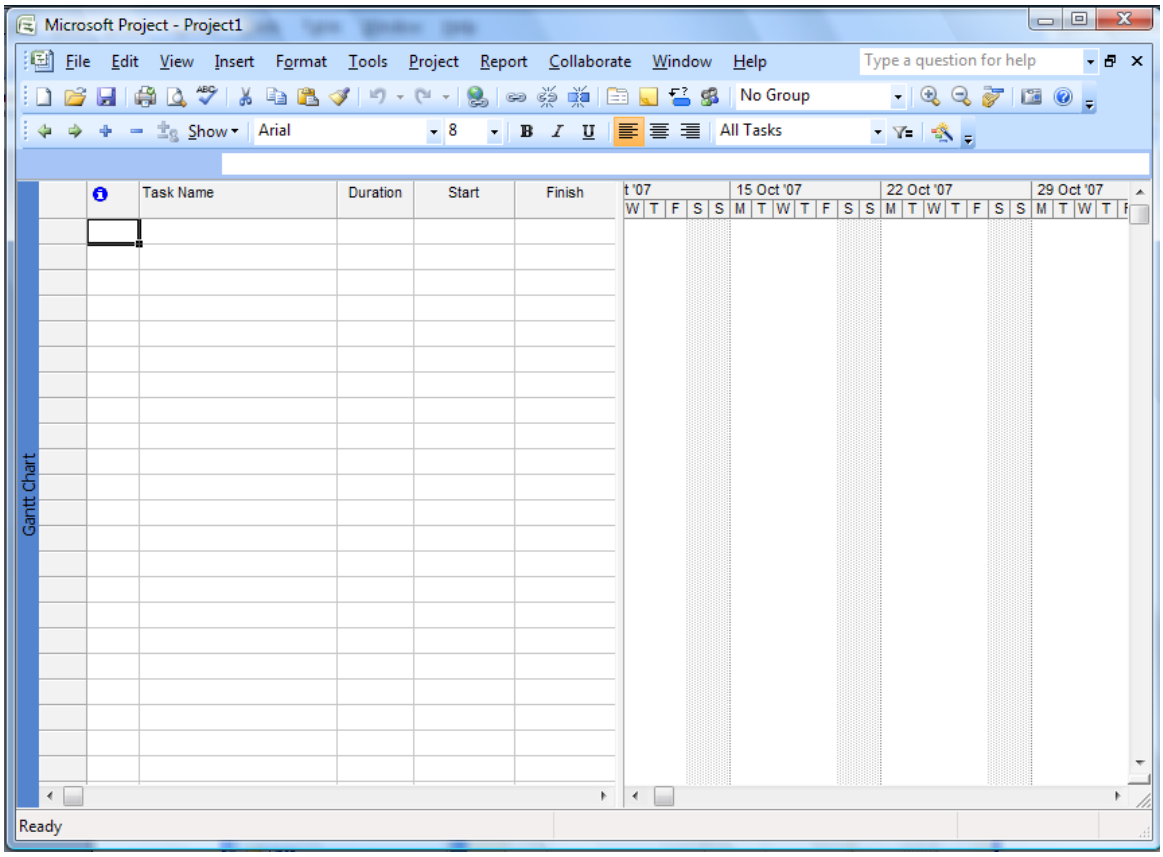
- Type in the topic required.
- Click on Search

Note: When performing certain actions (especially for the first time) the Office Assistant will appear automatically with a list of help options relative to what you are doing.

As well as offering help, the Office Assistant also offers tips on quick or short cuts for the features you are using. If the Office Assistant is visible a light bulb appears next to the paper clip. Otherwise a light bulb appears on the tool on the toolbar.

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1.6 MS Project - The Screen



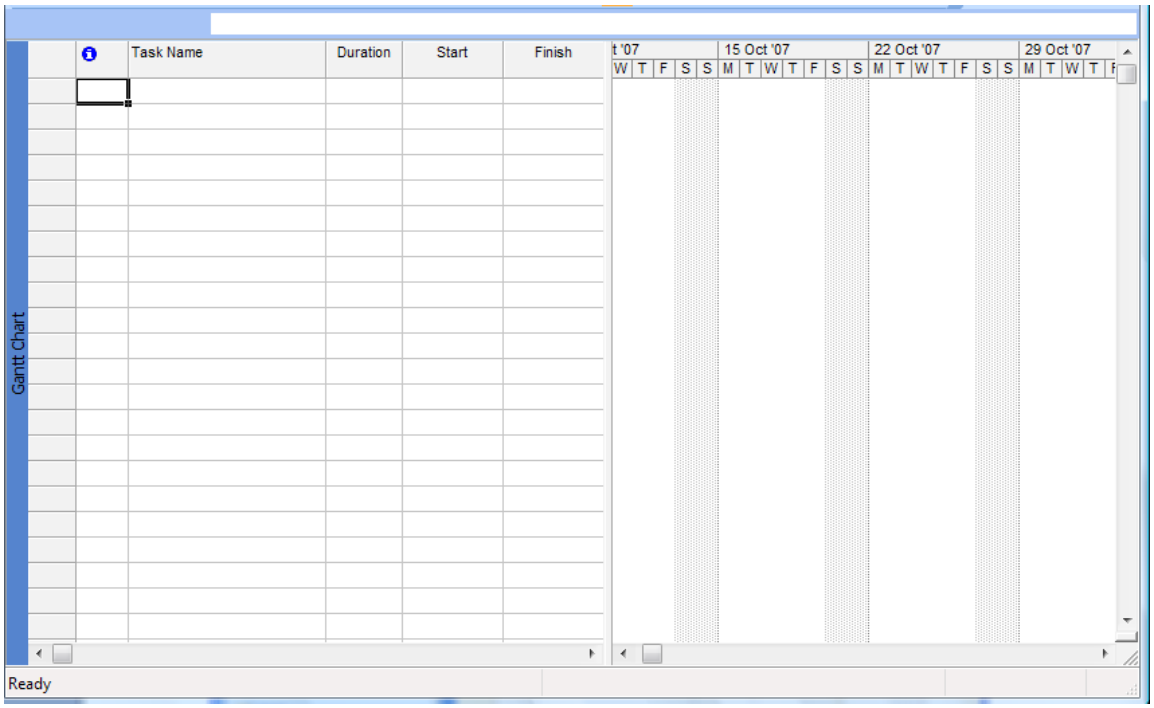
The Menus:	Always displayed, some options depend on the selected view.
Tool Bars:	Buttons provide quick access to the most common commands, The bars can be customised
Task Pane	With options to help when 'Getting Started'. Other task panes are available.
Entry Bar:	The entry point for text with outlining buttons.
Status Bar:	At the bottom of the screen showing the current status.
Scroll Bars:	When using a mouse to scroll the views and to move the boundary between two views.
Working Area:	The area for 1 or 2 views, the size of each can be adjusted.

1.7 Elements of the Default View

The default Project view is the *Gantt Chart* view, as displayed below. This view is used extensively in Microsoft Project. The Gantt Chart consists of a Gantt table and a Gantt bar chart. The divider bar separates the two and can be repositioned to display more of the table or more of the chart. The Gantt table consists of rows and columns. Just like on a spreadsheet, the intersection of a row and a column is called a *cell*. The Gantt bar chart graphically displays your schedule on a time line.

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The status bar displays the current mode of operation and warning messages and indicates when special key control modes, such as Num Lock mode, are on. The entry bar contains an Entry box where all information is input. The default toolbars are the Standard toolbar, Formatting toolbar and the Project Guide. Other toolbars can be displayed by choosing Toolbars from the View menu.



1.8 Views and Tables

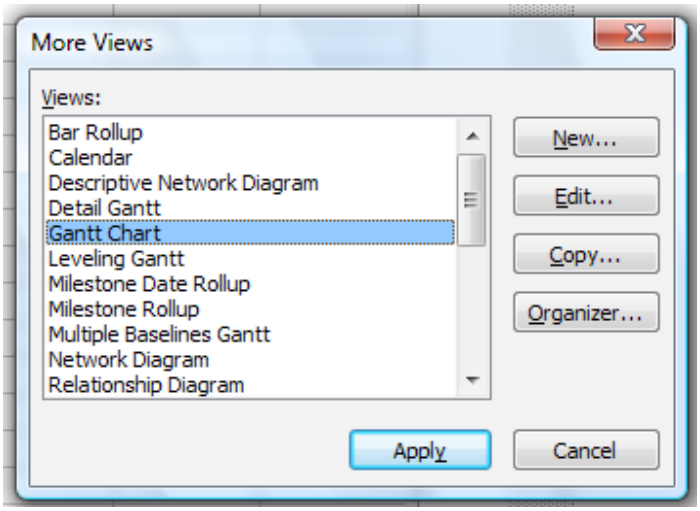
A view is the format of the way that project data is displayed on the screen and there are a considerable number of different permutations that can be used.

The **View Menu** is the first place where the view that is required is selected. The basic selection is between a Chart, a Form, or a Sheet. Some of the options in this menu can provide a split view to show two different displays for the same Task or Resource.

You can also use the View bar, located vertically on the left of the default view (if it is active). To activate/deactivate the View Bar, select View, View Bar.

As well as the standard views achieved with the View menu or View bar, you can select More Views to see more detailed and complex views and forms.

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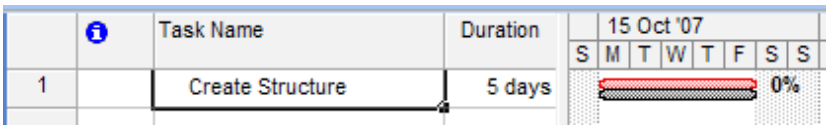
The table below describes some of the main views in Project.

Calendar:	Shows the view in the form of a calendar.
Gantt Chart:	A diagrammatic view of the Tasks and their time scale. This chart can also show the relationship between Tasks and the Critical Path. It usually shows the task entry form alongside the Gantt chart.
Network Diagram Chart:	Network Diagram is an acronym for Programme Evaluation Review Technique. This view represents each Task as a box with relevant information within it. The layout of the boxes on the chart and the lines that link the boxes represent the structure of the project.
Task Usage:	The Task Usage view displays project tasks with their assigned resources grouped underneath them.
Tracking Gantt:	The Tracking Gantt view displays two task bars, one on top of the other, for each task. The lower bar shows baseline start and finish dates, and the upper bar shows scheduled start and finish dates (or if the task has already started, meaning that the percentage complete is greater than zero, the upper bar shows the actual start and finish dates).
Resource Graph:	A graphical representation of a single resource and its utilisation.
Resource Sheet:	A list of all the resources for the project.
Resource Usage:	This is a view that shows the use in hours per day for each resource.
More Views:	Allows the showing of combination views as well as details of a single Task
Table:(Entry):	Changes the form alongside the Gantt chart.
Reports:	Takes you into Report Wizard.
Toolbars:	Allows you to change the Toolbar display.
View Bar:	Activates the View bar, located vertically on the left of the screen.
Zoom:	Changes the amount of information you can see on screen, from days to years.

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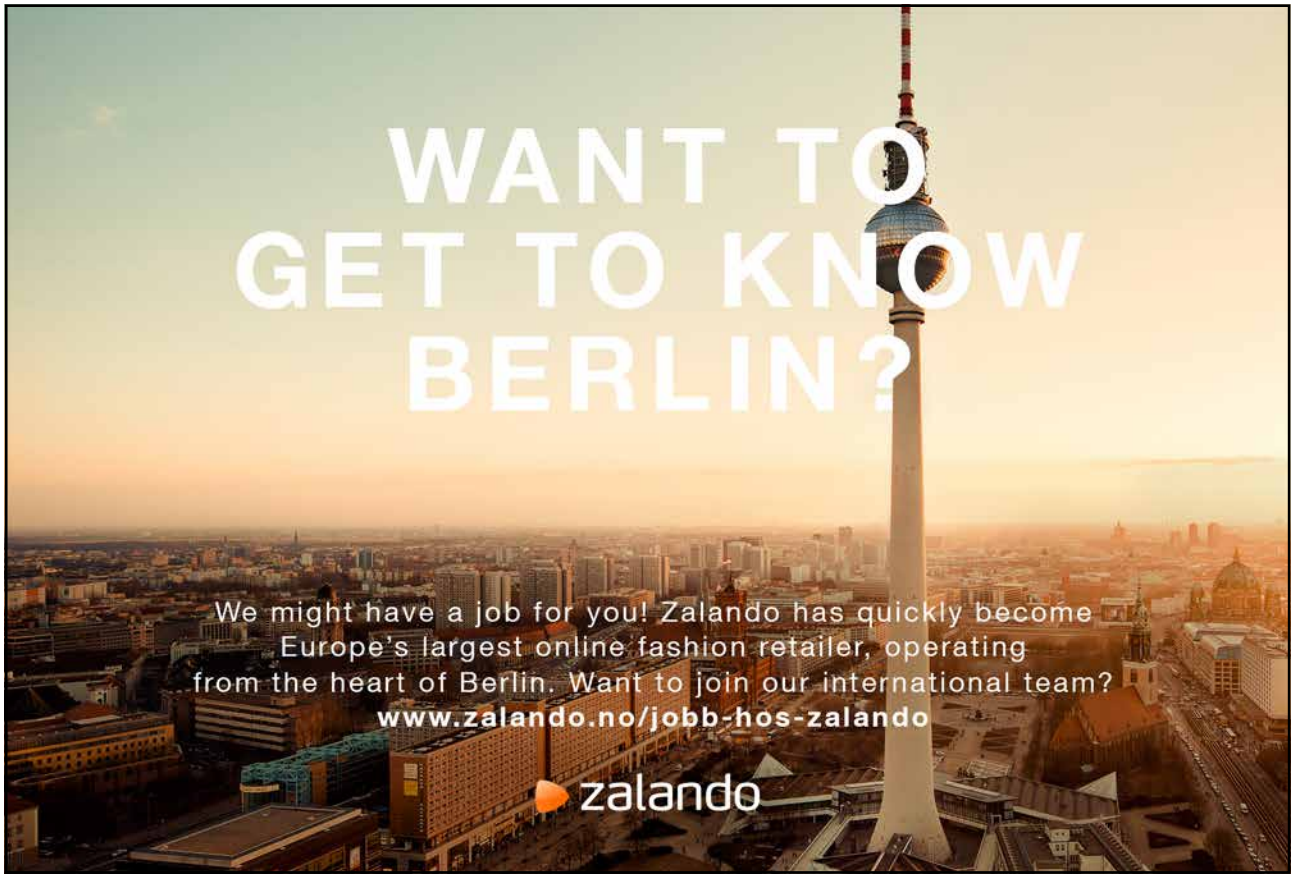
1.9 The Tracking Gantt View

When you initially set up your project with tasks and dates, and then save the project with a baseline, the Tracking Gantt view displays those tasks as shown in the following example.



The baseline bars and the scheduled or actual bars are synchronized. However, if the start date of task slips by, say, 2 days, the red scheduled bar will extend 2 days beyond the lower baseline bar.

Because the tasks are linked, the slipping of task 2 will cause a ripple effect, making its successor tasks slip by 2 days as well.



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You can use the Tracking Gantt view to:

- See how tasks progress across time and evaluate the slippage of tasks. You can track progress by comparing baseline and scheduled or actual start and finish dates and by checking the completion percentage of each task.
- View tasks graphically while still having access to detailed information about the tasks.
- Create a project by entering tasks and the amount of time each task will take.
- Establish sequential dependencies between tasks by linking them. When you link tasks, you can see how a change in the duration of one task affects the start and finish dates of other tasks and the project finish date.
- Assign personnel and other resources to tasks.

1.10 MS Project - Menus

The File Menu

The File menu is typical of the windows environment. The command which pertains to MS Project is:

Properties:	Provides basic information on the Project.

The Edit Menu

The Edit menu is also typical of the windows environment. Commands which pertain to MS Project include:

Link Tasks:	Create links between tasks.
Unlink Tasks:	Break an existing link.
Go To:	Go to a task or resource. (Depends on view.)

The Insert Menu

Among other things allows you to insert new rows for tasks or columns for information. You can also go to the Task information dialog box to add more detailed information to the current task.

The Format Menu

This changes dramatically when different views are selected. The following are the principal selections.

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For a Network Diagram the choices are:

Text Styles:	Modifies the size, and type of the selected text.
Box Styles:	Changes the appearance of the Network Diagram boxes.
Layout:	Allows you to customise the way links are shown.
Layout Now:	Redraws to show changes made to links etc.

For the GANTT chart the choices are:

Font:	Used to change the font.
Bar:	Change the selected Gantt Bar style
Timescale:	Allows you to set the displayed time at anything from years to minutes.
Gridlines:	Allows you to display or hide Gridlines and change their appearance.
Gantt Chart Wizard:	Takes you through the programs method of setting up your Gantt chart.
Text Styles:	Change the font, size and colours
Bar Styles:	Change all Gantt bars.
Details:	Details of the Gantt chart
Layout:	Change the way the bars are displayed including links.

The Tools Menu

The main choices here are Change Working Time, Tracking and Multiple Projects.

Assign Resources:	Apply various filters to the tasks.
Level Resources:	Shows resource levelling information
Change Working Time:	Format a new Calendar.
Tracking:	Check the progress.
Links Between Projects:	Set up sub projects and links.

The Project Menu

This menu is for retrieving information on the project and its components. Some of the options launch sub menus. The commands are fairly self-explanatory and will become clearer later in this course.

There are also the usual Window and Help options.

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You will find that the menu choices may change depending on the view selected. If this happens it simply means that the option you wanted is not available for that view.

1.11 MS Project - The Tool Bars

The Buttons provide quick access to some of the commands available from the pull down menus. The default arrangement of the toolbars is the Standard and Formatting bars active.

The formatting bar is virtually identical to the same thing in other Office applications, except it has the Outline tools attached to it. These tools are for promoting and demoting tasks, Collapsing and expanding sub tasks plus the usual Text format and alignment buttons.





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The **Standard** toolbar contains the following buttons:

	Create a New blank file.		Link the selected tasks with a Finish-to-Start relationship
	Open an existing File.		Unlink the selected tasks.
	Save the current file		Split the selected tasks
	Print the active View		Open the Task Information dialog box.
	Print Preview the active view		Attach a note to the current task.
	Spell-check the selection.		Task drivers
	Cut the highlighted section to the Clipboard		Add Resources.
	Copy the highlighted section to the Clipboard		Group Information.
	Paste from the Clipboard.		Zoom in.
	Format Painter.		Zoom out.
	Undo the previous action.		Go to selected task.
	Redo the previous action		Copy a static Picture so it can be used in another application.
	Insert a hyperlink Launch the Web toolbar.		Display the Office Assistant

☞ Loading and Viewing a Project

- Select **File, Open** to open any project file.
- Press [**Ctrl-Home**] and [**Alt-Home**] to go to the start of the project.
- Use the scroll tools to see the project progress.
- Use the mouse to change the size of the various windows.
- Alter the time scale with **View, Zoom**.

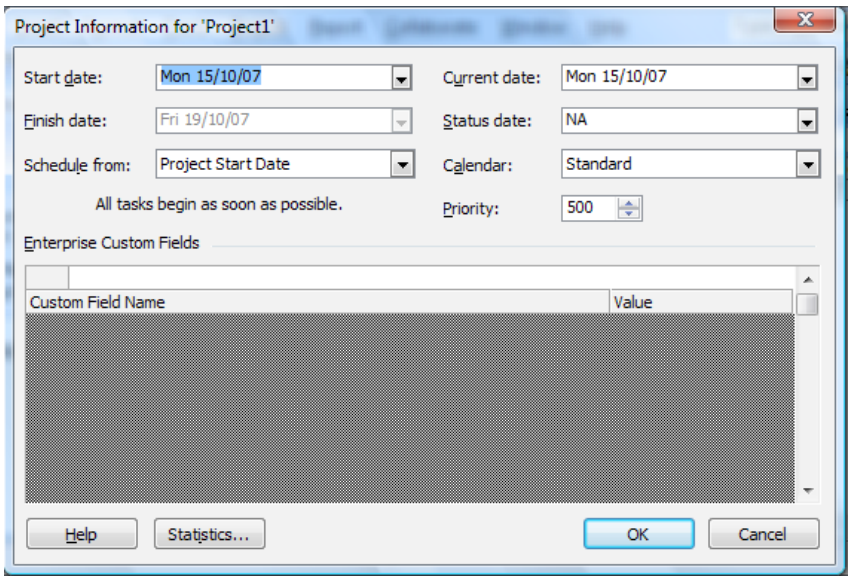
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☞ Change the View

- Click on the **View** menu.
- Choose each of the top **five** and note the different screens.
- Select **View, Gantt Chart** to return to the original view.
- Move the mouse to the central vertical bar on the screen when it will change to a double line with a double-headed arrow
- Click and hold the left button and drag left to see more of the Gantt Chart.
- Repeat but drag right to see more of the Entry Table.

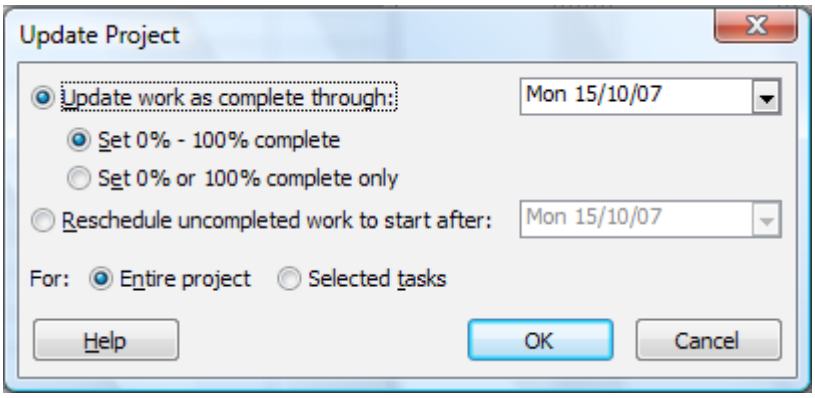
☞ Change the Project Start Date

- Select **Project, Project Information** from the menus.
- Change the project Start Date.



- Click OK and examine the views again.
- Select **Tools, Tracking, Update Project** to see project progress so far.

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☞ Exit Project

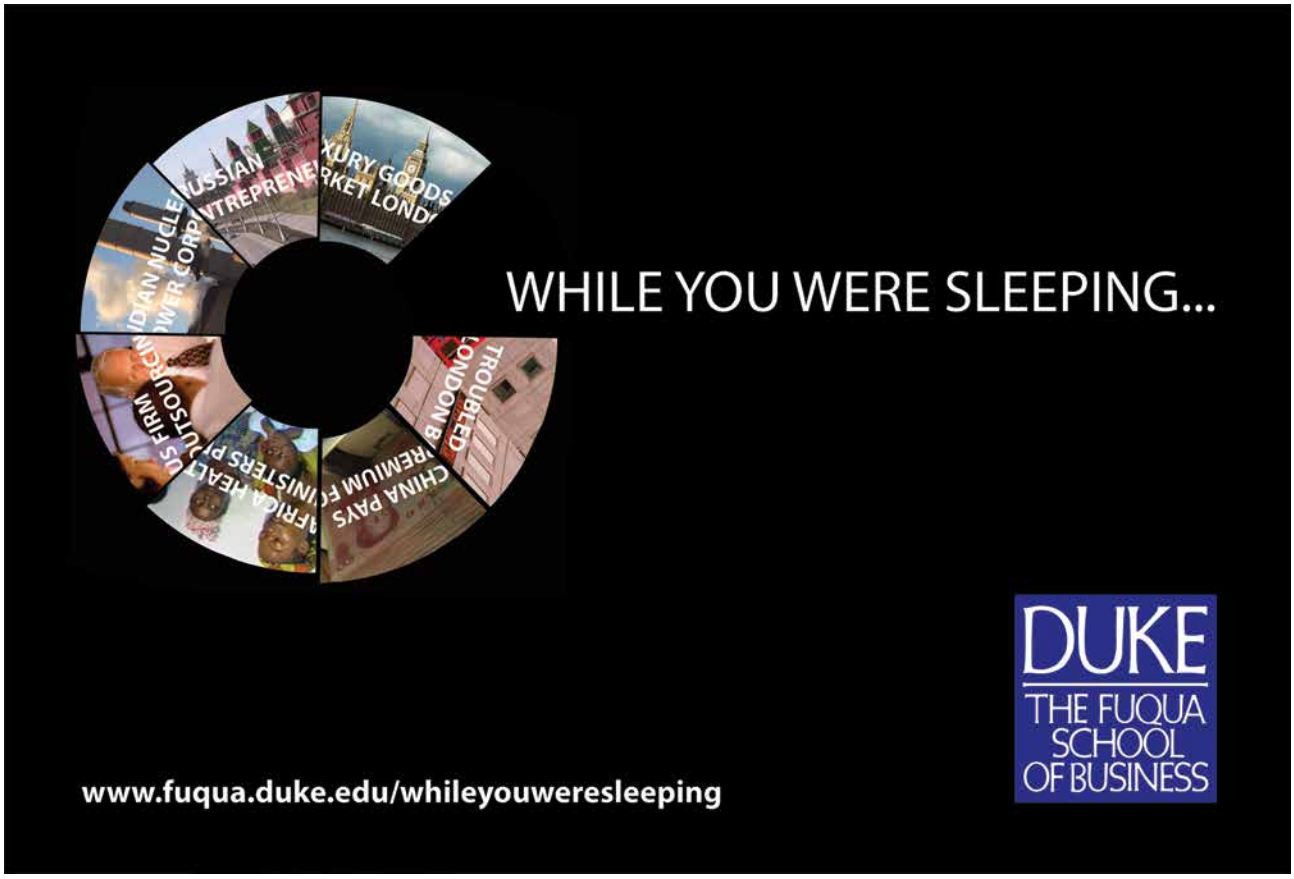
- Select **File, Close** to close the existing project file.

Note: PLEASE DO NOT SAVE ANY CHANGES!

1.12 Project Management

Project: - 'A planned undertaking'

The skills of project management are gathered from a wide range of experiences. Consciously or sub consciously we all apply these skills in the daily administration of our work.



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Where a major undertaking has to be completed, these skills are not only brought into focus but must be applied in a much more structured format.

We must take on the jargon and techniques of the Project Manager as well as become familiar with the "Tools of the trade".

To review the skills that are relevant to project management

- The ability to define the Goal, Objective, Specifications and Limitations of a project.
- The ability to define the individual tasks in sufficient detail and sequence to meet the objective with the minimum of problems, and within the defined time scale.

Task attributes should include some or all of the following

- Objectives
- Time constraints
- Milestones
- Task(s) on which this Task is Dependant
- Estimated Duration: -
- Task(s) that are dependent on this task
- (Optimistic estimate)
- Itemised task Budget
- (Pessimistic estimate)
- Resources required to complete the Task.
- The ability to manage the progression of the tasks in terms of their resources, start times and finish times.
- The production of appropriate progress reports.

As the complexities of these undertakings increase so the importance of discipline and structure increase and the Project Manager must look to the tools that can help which is where Microsoft Project comes into the picture.

1.13 The Stages of Project Management

The process of project management is divided into specific stages which can be defined as follows: -

Define the Project
|
Plan the project
|
Implementation
|
Monitoring and Adjusting
|
Evaluation

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Defining the Project.

Setting out the Goal and the Objectives together with the Specification and Limitations within which the undertaking must be completed.

Plan the Project

Planning of all the activities, resources, and estimation of materials and time scales. Some of this planning may have to be done at an appropriate level for cost estimation before the project can be agreed. Once the decision to go ahead has been taken the skills of the Project Manager are used to define the details of the planning stage. When this has been completed and agreed it will become the "Plan" or the base line against which progress can be measured.

Implementation

A leap into the v

Notes: A poorly planned project will take three times longer that the original plan. A well-planned project will only take twice as long.

A project that will be completed without changes, on time and within budget has never been known in the past and will never happen in the future.

Microsoft Project will help!

1.14 Monitoring and Adjusting

Recording Actual Progress

Once the project is under way, the progress of each activity is recorded. This information can then be compared against the Plan and the differences highlighted.

Revising the Schedule

The process of minimising the effect of problems and delays on meeting project deadlines is achieved by adjusting and updating the Schedule to meet the changed circumstances.

Evaluation.

As the project progresses and when it has been completed the process of evaluation should be used to learn the lessons for the next time.

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MS Project - Operational Basics

MS Project has the following capabilities:

- 1 million tasks per project (depending on free RAM)
- 1 million resources per project
- Calendar dates from 1984 to 2049

Highlights

- Gantt charts to show project schedules graphically on a time scale (with scaling from minutes to years).
- Network Diagrams to show task relationships.
- Outlining to group and arrange project tasks in hierarchical order.
- Filters to view selected information.
- Resource usage and Graph views and reports to quickly identify resource availability and costs.
- Split views to see any two screens simultaneously.
- Custom fields so you can track additional information unique to your project.



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Section 2 Planning the Project

After completing this section you will be able to:

- **Design a sample project.**
- **Begin to use Microsoft Project.**
- **Create a Project File.**

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2.1 Defining the Project

This is the starting point for a new project. The following are the areas that must be completed:

The Goal

This is a short statement of what the project should achieve in the broadest terms. For example if the project is to build a new road to divert traffic away from a shopping centre the goal would be: -

> To make access to the shopping centre easier for pedestrians and improve the shopping amenities for local residents.

The Objectives

The objectives can be more specific and there can be any number of them as required. To continue the example from above the following are examples: -

- To build a road for through traffic that does not use any existing residential areas.
- To design the road and the route to allow for the projected traffic flow for the next 20 years.

The Specification

This section will provide more detailed areas for the project, for example it may specify the broad sections of the project and at what points approvals are required before proceeding. There may be a section concerning where resources should come from. It may also specify the management team.

The Limitations

These are the restrictions that will affect the project, for example there may be a cost limit, there could be a set of regulations that must be adhered to, time may be a vital factor.

When these areas are clearly specified before the project starts there is a much greater chance of the project succeeding and major pitfalls being avoided. (In theory!)

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Complete the Project Definition

As an exercise, define a project that can be planned in the next section and subsequently used in the following sections of the manual to try out the features of the package.

☞ Complete the following fo

Project Title: (File Name)	
Start Date:	
Goal:	
Objectives:	
Specification:	
Limitations:	

2.2 Project Planning

This is where the experience and skill of the Project Manager must be used. At this point the project is broken down into a series of tasks and you must ensure you have all the necessary information for each task.

The Project Manager must be confident that it will be possible to control the task as listed, if there is any doubt then the task should be broken down into a number of smaller tasks, each of which will be easier to control.

When defining a task the following is a guide to the information required.

- The Title
- The Objective of the Task
- The time required to complete the task.
  (Give an optimistic and pessimistic estimate.)
- A note of any previous task or tasks that are associated with this task.

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- The immediate subsequent tasks.
- The resource(s) that are required to complete the task.
- Any time constraints that apply.

When all the tasks have been specified together with their resources, you have completed the major part of the planning of the project.

The next stage is to examine the flow of the tasks and the utilisation of the resources. It may well be that some of the resources are over allocated and these problems must be resolved or noted.

At this point it will be possible to **Set the Plan,** this will become the base line against which progress can be measured.



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2.3 Complete the Project Plan

☞ **Complete the following table**

Number	Task Name	Duration	Predecessors	Resources

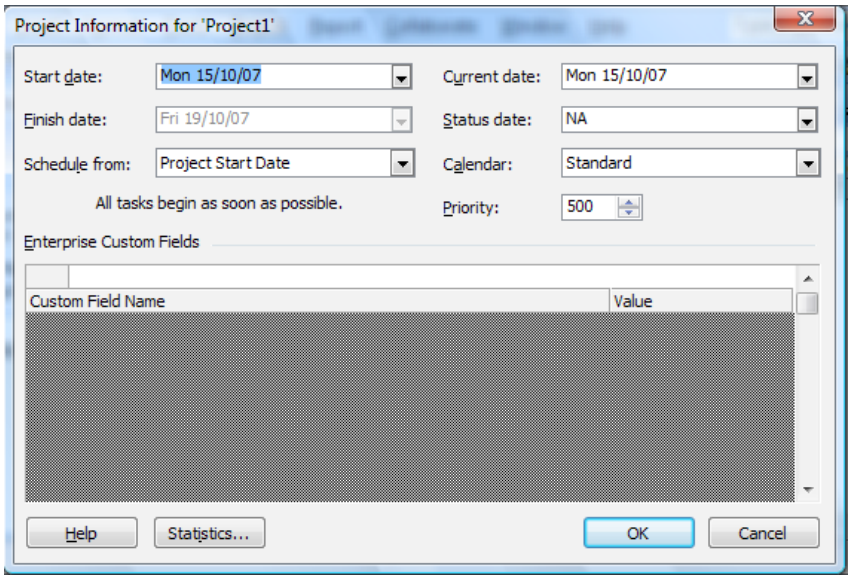
2.4 Where to Begin with MS Project

The first step is to enter general information about the project in the **Info** box.

Starting a New Project

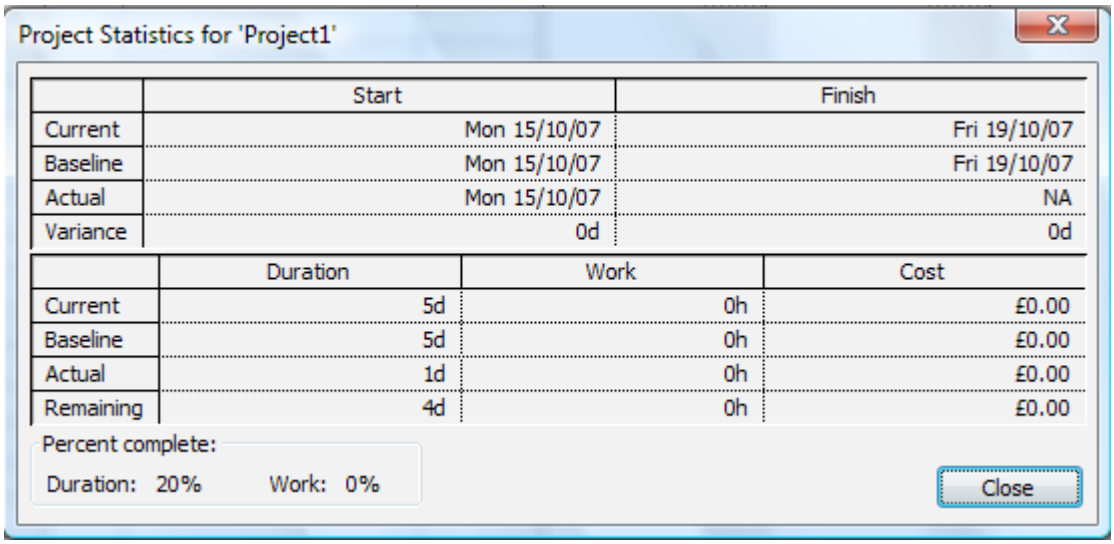
The Project Info dialog box, illustrated below, records background information and allows you to enter scheduling information. The dialog box allows you to specify either the project start or finish date. If you enter a start date, the finish date will be automatically calculated. If you enter a finish date, the start date will be calculated. Note, however, that if you choose to enter a finish date, all tasks will be considered critical because they will all be scheduled as late as possible. If you do not enter a project start or finish date, Microsoft Project will automatically use the current date as the start date. The Project Info dialog box also allows you to specify the project calendar, as shown below.

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The Project Info Dialog Box

Choosing the Statistics button opens the Project Statistics dialog box, below. This dialog box displays information on project start and finish dates, duration, work, and cost. It also provides comparative statistics you can use to measure the progress of your project.



The Project Statistics Dialog Box

☞ To start a new project:

- Choose New from the Standard Toolbar.
- The Project Information dialog box allows the selection of the appropriate information.
- To view project statistics, choose Statistics.
- Once you have viewed the necessary information, choose Close.

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Project Properties

You can enter descriptive information about your project in the Properties dialog box. This information will help you and others identify the source and purpose of your project. The Properties dialog box consists of five tabs, described in the table below.

Tab	Function
General	Provides information about the project, including project name, file type and size, file location, dates and times of file creation, most recent modification, and most recent access.
Summary	Provides a description of the project, including title, subject, author, company name, manager, category, keywords, and comments.
Statistics	Provides information about project use, including date created; most recent modification, access, and printing; person who last saved it; current revision number; total editing time; and summary.
Contents	Contains schedule information, including project start and finish dates, duration, total work and cost, and percent complete.
Custom	Allows you to enter project properties by which you can search and define links to actual values in your project.

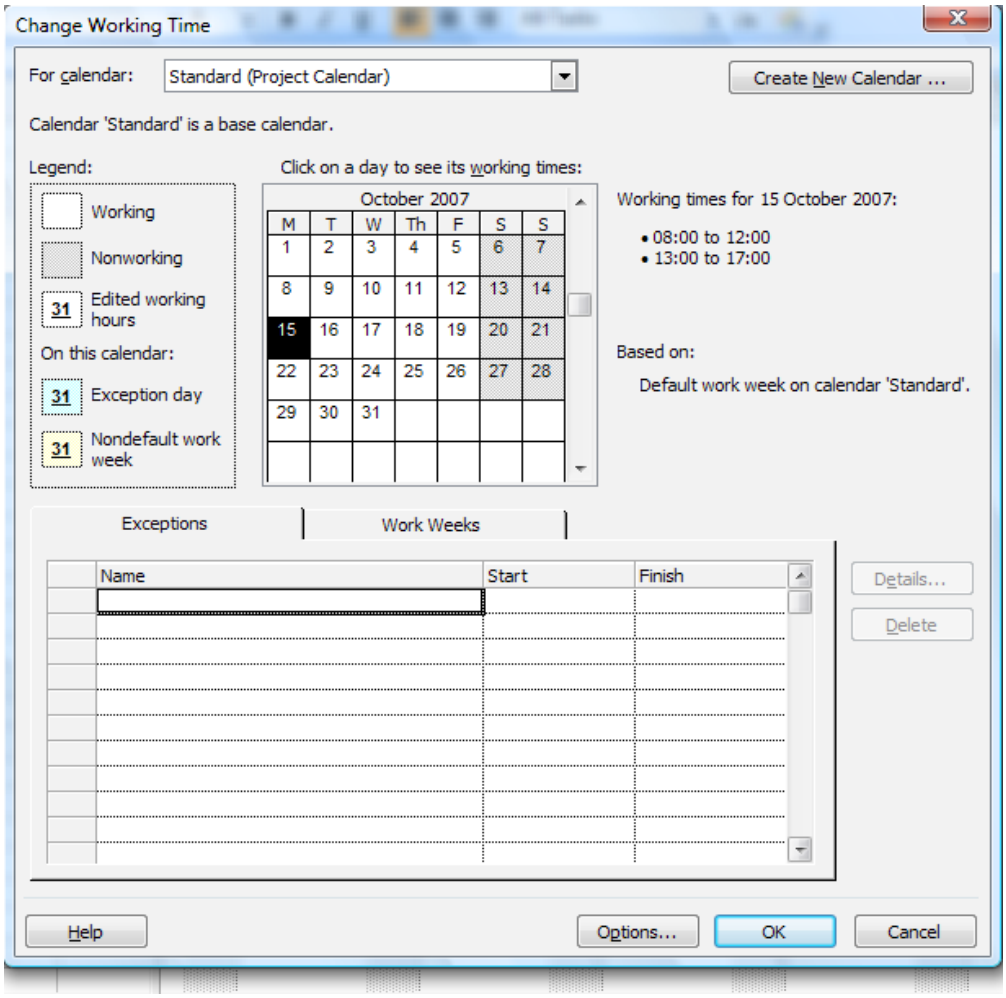
2.5 The Calendar

The Default Working Calendar is used by MS Project to calculate all Timescales and Resource costs. It defaults to a working day of 8 hours with the working hours 0800 to 1200 and 1300 to 1700.

You can create your own calendar with your own particular times. If this is not a standard 8-hour day you must remember to tell MS Project what the standard day is. Each resource you add will be based on the calendar you select when you start your project.

Depending on the nature of your project you may find that the base calendar and standard 8-hour day is satisfactory. A full day's work is considered as two shifts¾one in the morning and one in the afternoon. You can use the From and To text boxes in the Working Time area to specify up to three shifts. Selecting Default restores selected days and working hours to their default settings.

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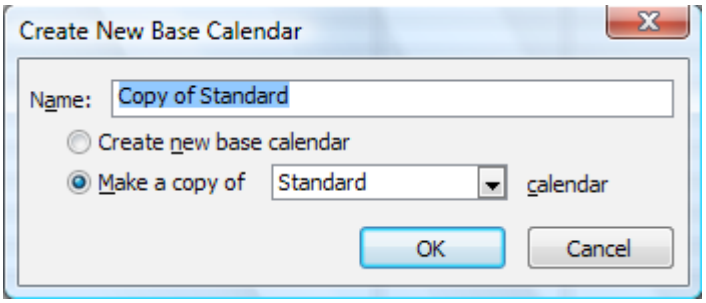
The Change Working Time Dialog Box

Resource calendars deal specifically with resources¾that is, working hours, working days, and vacations on an individual basis. Resource calendars are created automatically when a resource is added to the pool. Users do not create resource calendars. It is up to the user to attach a resource to a specific base calendar.

2.6 Creating a New Base Calendar

When creating a new calendar, you have the option of creating a brand new calendar or of creating one based on an existing calendar, as indicated below

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Creating a New Base Calendar

☞ Create a new Calendar

- From the Tools menu, choose Change Working Time.
- Choose **New**.
- In the Name text box, type the new calendar's name.
- Select either the Create new base calendar or Make copy of calendar option button.
- Choose OK.
- If required, select the desired month by clicking the up/down arrow on the vertical scroll bar of the calendar.
- In the calendar, either select specific dates for which you want to make a change or select all days of the week by selecting the column headings.



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- Specify the changes to be applied to the selected days, i.e., working, nonworking, default, or hours.
- Choose **OK**

2.7 Save the New Project File

Saving a Project

While you are working on your project, make sure that you save it to disk. It is good practice to save your project every fifteen minutes so that, if there is a power outage or power surge, you will lose only fifteen minutes of work at the most.

For a new project that you have not yet saved, you can choose either Save or Save As from the File menu. However, the Save As dialog box will always appear because the project does not have a name. You can give your file a name with as many characters as you like, and Microsoft Project will automatically assign the three-character extension .MPP.

Once you have named your document, the Save command automatically saves the project under its existing filename. The Save As command can still be used if you want to give your project a new name, leaving the original file intact.

You can also save (*export*) your project in formats that other programs can read. For example, you can export your project file with an .XLS extension for use in an Excel spreadsheet, a .DBF extension for use in a FoxPro or dBase database, or an .MPX extension for use in other project management applications. To export a file, in the File Save dialog box, select the desired extension from the Save as type drop-down list, type the filename, and choose Save.

☞ To save an unnamed project:

- From the File menu, choose Save As.

OR

- On the Standard toolbar, click the Save button.
- If required, select the desired drive and/or folder.
- If required, select the File name text box.
- In the File name text box, type the project (file) name.
- Choose Save.

☞ To save a named project:

- From the File menu, choose Save.

OR

- On the Standard toolbar, click the Save button.

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2.8 Ending a Project Session

At various intervals, you will need to close a project and work on other ones. Alternatively, when you are finished working in Project, you will need to close all your projects and exit out of Project altogether.

Closing a Project

Once you have finished working with an existing project, you will close it. When you do this, Project asks whether you need to save the changes.

☞ To close a project:

- From the File menu, choose Close.
- Choose Yes to save the changes.

OR

- Choose No to close the file without saving the changes.

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Section 3 Task Entry and Linking

After completing this section you will be able to:

- **Understand the various methods of Task Entry.**
- **Enter Tasks.**
- **Link Tasks.**
- **Create Summary Tasks.**
- **Use the AutoCorrect feature.**



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3.1 Entering Tasks

This is the main activity in setting up a new project. The tasks which have been identified at the Design Stage must be entered.

The system will hold task information in a task database, which we cannot access directly but is used by the system whenever we view task data. This is one of two databases the system uses the other being the resource database.

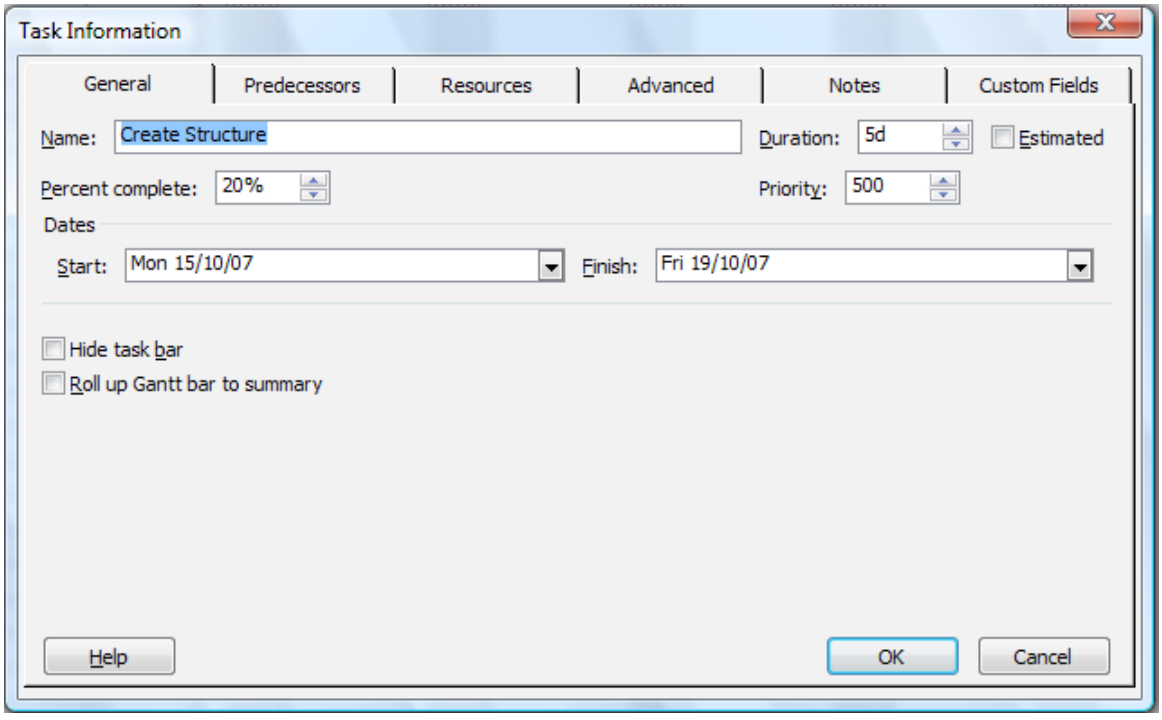
It is important to understand that the system checks the data that it holds and where the data does not cross check then the system will generally update the database to make it right. It is important to keep an eye on this process; this will be discussed in a later section.

As each entry is made the system will update the appropriate data and views to reflect the entries.

The order of entry should be in the logical progression but this is not essential as it can be changed.

Normal Task entry will be by using the standard Task Sheet. The Gantt View shows the Gantt Chart in the right part of the window with the Task Sheet in the left part.

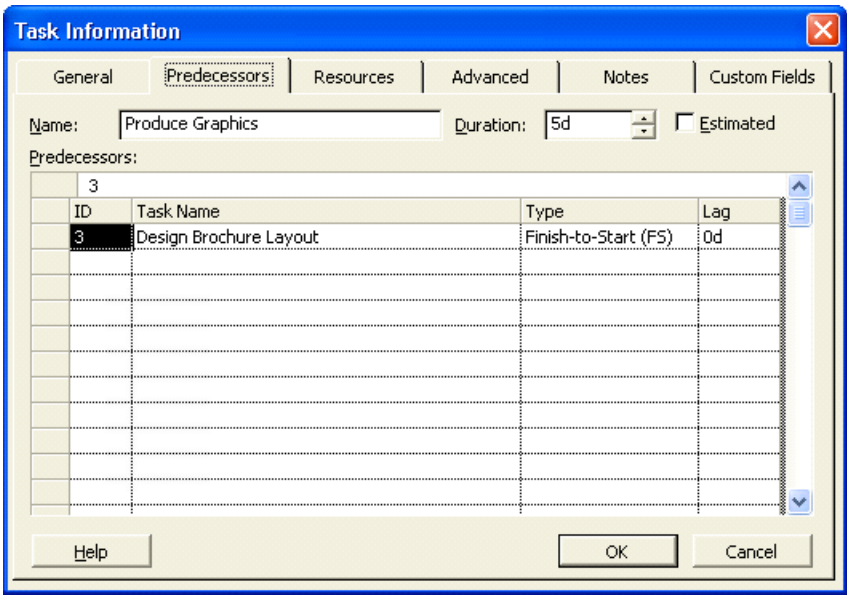
The Task Information box/Task Sheet



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The Task sheet is a view of the selected task with information shown in the columns as follows:

ID:	The Task Identification number.
Name:	The Name of the Task.
Duration:	The time the Task will take including the time units.
Start Date:	This is the current Scheduled Start date for the Task. Not the Planned or Actual Start.
Finish Date:	The Scheduled Finish date.
Predecessors:	The ID numbers for the preceding Tasks that are linked to this Task.
Resources:	The names of the resources performing or used in the Task.



3.2 The Task Entry Form

It is possible to select the Task Entry view to see the **Gantt Chart** in the upper pane and the **Task Form** in the lower pane. To do this choose **View, More Views, Task Entry.**

From the Task Sheet the following entries can be made.

ID: The Task Identification number.

Task Name: The Name of the Task.

Duration: The time the Task will take including the time units.

As the entries are made, the Gantt Chart will automatically be updated to display the tasks.

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If using the **Task Form** it will be possible to enter and/or view the following.

Name: The name of the task

Duration: The length of time the task will take and the units of time.

Fixed: A check box to specify the start date to be fixed.

Start: The scheduled start date, if this is not entered the system will calculate it from the data entered and the relationships defined.

Finish: The scheduled finish date, entered or calculated as above.

% Complete: A measure of the completion of the Task if it has been started.

3.3 Tables and descriptions

Resource Table

ID: The identification number of the Resource

Resource Name: The name of the resource.

Units The number of units available for the resource.

Work The amount of work currently assigned to the resource.

Predecessor Table

ID The identification number of the Predecessor.

Predecessor Name: The name of the Predecessor. If this is not entered the system will look it up using the ID number.

Type: The relationship with the current Task which will be FS, or SS, or FF.

Lag The time delay between the end of the Predecessor the start of the Successor.

It is not necessary to complete all the fields at entry time, as more information is added so the system will update the boxes. It is only necessary to enter the data that has been determined in the design stage.

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☞ To enter task descriptions and durations one cell at a time:

- In the Task Name column, select the first available cell and type the name of the task.
- Press **TAB**
- In the Duration column, type the value of the duration. If the duration is anything other than days, type **m** for minutes, **h** for hours, or **w** for weeks.
- Press **ENTER**
- Press **Left Arrow** to return to the Task Name column and repeat steps 1 through 4 as required.

☞ To enter task descriptions and durations by selecting a range:

- Select the first cell (the numbered cell) of the desired range.
- Drag the mouse through the range of cells you want to include.
- In the first cell, type the desired information.
- Press **TAB**
- In the Duration column, type the appropriate information.
- Repeat steps 4 and 5 as required.

Note: *Pressing **Shift**+**Tab** moves to the previous cell without deselecting the range. Clicking your mouse inside or outside the range will deselect the range.*



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3.4 Other Methods of Adding Tasks

As a general rule Tasks can be added in any view where the tasks are displayed. The most obvious methods in addition to using the normal Task Entry view are as follows: -

In the Gantt Chart or the Task Sheet

An additional task can be added at the end of the list using the **Insert, New Task** command.

Where additional information is required to be entered then this can be done by using the Task Information form which is opened by simply double-clicking a task in the task list.

Using the Task Information Form

It is possible to enter additional tasks using this form but it does not have all the possible entry points. The details of this form are included in the description of the Task Entry View above.

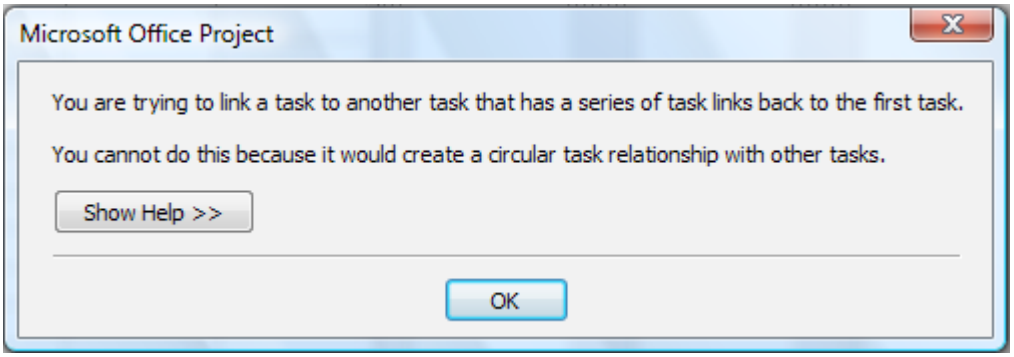
Using The Network Diagram Chart

Additional tasks can be placed within the chart by drawing a box and then entering the information within the fields. The relationship can be also be entered graphically by pointing to the Predecessor and dragging a line to the Successor.

Where a relationship needs to be removed, a double click on it will display a box which has a delete button in it.

Further time will be spent on this view later.

> *Note: When you try to make a link that is not logical or possible, Project will warn you about this (see illustration below).*



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3.5 Add Tasks

The following tasks can be used as a practical in MS Project

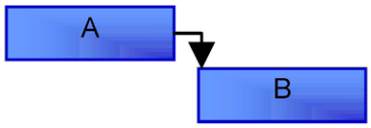
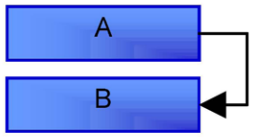
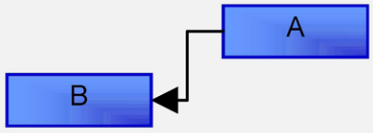
[This column is for your info only]	Task	Duration
Milestone task	Course Development	0d
Summary task	Preparation	1d
Sub tasks	Install Software	2h
2 2	Studies and Specifications	1d
Summary task	Section Development	
Sub tasks	Section 1	
2 2	Section 2	
2 2	Section 3	
2 2	Section 4	
2 2	Section 5	
2 2	Section 6	
2 2	Section 7	
2 2	Section 8	

- Enter the tasks as above. As you enter them Project will enter 1d as the default duration. Change this for Install Software.
  Note: By simply setting the Course Development task to zero days. It is given Milestone status.

3.6 Linking Tasks

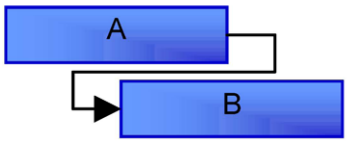
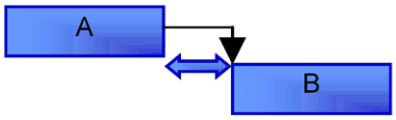
In order that the system is able to display the overall time aspects of the project, each Task must be defined in terms of the Tasks on which it is dependent and in turn those Tasks that are dependent on it. It is also possible to define in what way these dependencies exist.

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Link type	Example	Description
Finish-to-start (FS)		The dependent task (B) cannot begin until the task that it depends (A) on is complete. For example, if you have two tasks, "Dig foundation" and "Pour concrete," the "Pour concrete" task cannot begin until the "Dig foundation" task is complete.
Start-to-start (SS)		The dependent task (B) cannot begin until the task that it depends (A) on begins. The dependent task can begin anytime after the task that it depends on begins. The SS link type does not require that both tasks begin simultaneously. For example, if you have two tasks, "Pour concrete" and "Level concrete," the "Level concrete" task cannot begin until the "Pour concrete" task begins.
Finish-to-finish (FF)		The dependent task (B) cannot be completed until the task that it depends on (A) is completed. The dependent task can be completed anytime after the task that it depends on is completed. The FF link type does not require that both tasks be completed simultaneously. For example, if you have two tasks, "Add wiring" and "Inspect electrical," the "Inspect electrical" task cannot be completed until the "Add wiring" task is completed.
Start-to-finish (SF)		The dependent task (B) cannot be completed until the task that it depends on (A) begins. The dependent task can be completed anytime after the task that it depends on begins. The SF link type does not require that the dependent task be completed concurrent with the beginning of the task on which it depends. For example, the roof trusses for your construction project are built offsite. Two of the tasks in your project are "Truss delivery" and "Assemble roof." The "Assemble roof" task cannot be completed until the "Truss delivery" task begins.

We can also fine tune these relationships by specifying Lag or Lead times as required. Type Example Description

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Type	Example	Description
Lead		**Lead time** is an overlap between two tasks that are linked by a dependency. For example, if a task can start when its predecessor is half finished, you can establish a finish-to-start dependency and specify a lead time of 50% for the successor task. You enter the lead time as a negative value
Lag		**Lag time** is a delay between two tasks that are linked by a dependency. For example, if there must be a two-day delay between the finish of one task and the start of another, you can establish a finish-to-start dependency and specify two days of lag time for the successor task. You enter the lag time as a positive value.

Skatteetaten



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Linking of Tasks can be achieved by making the appropriate entry in any of the task views or highlighting the tasks and using the link button on the Tool Bar, or by using the **Edit, Link Tasks** command

> *Note: You need to highlight the tasks you want to link before trying to link them. Use the mouse while holding down the [Ctrl] and/or [Shift] button(s) to do this*

☞ Links are most clearly shown in the Network Diagram

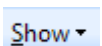
- Enter some of the links by completing the Predecessor ID in the lower pane.
- Add some of the links by selecting them and using the linking button.

3.7 Defining the Summary Tasks

Microsoft Project provides the ability to structure the tasks by setting different levels of tasks and grouping tasks under a summary task. This can be useful where the project has a considerable number of tasks; management can be made easier by only viewing and reporting on the summary tasks.



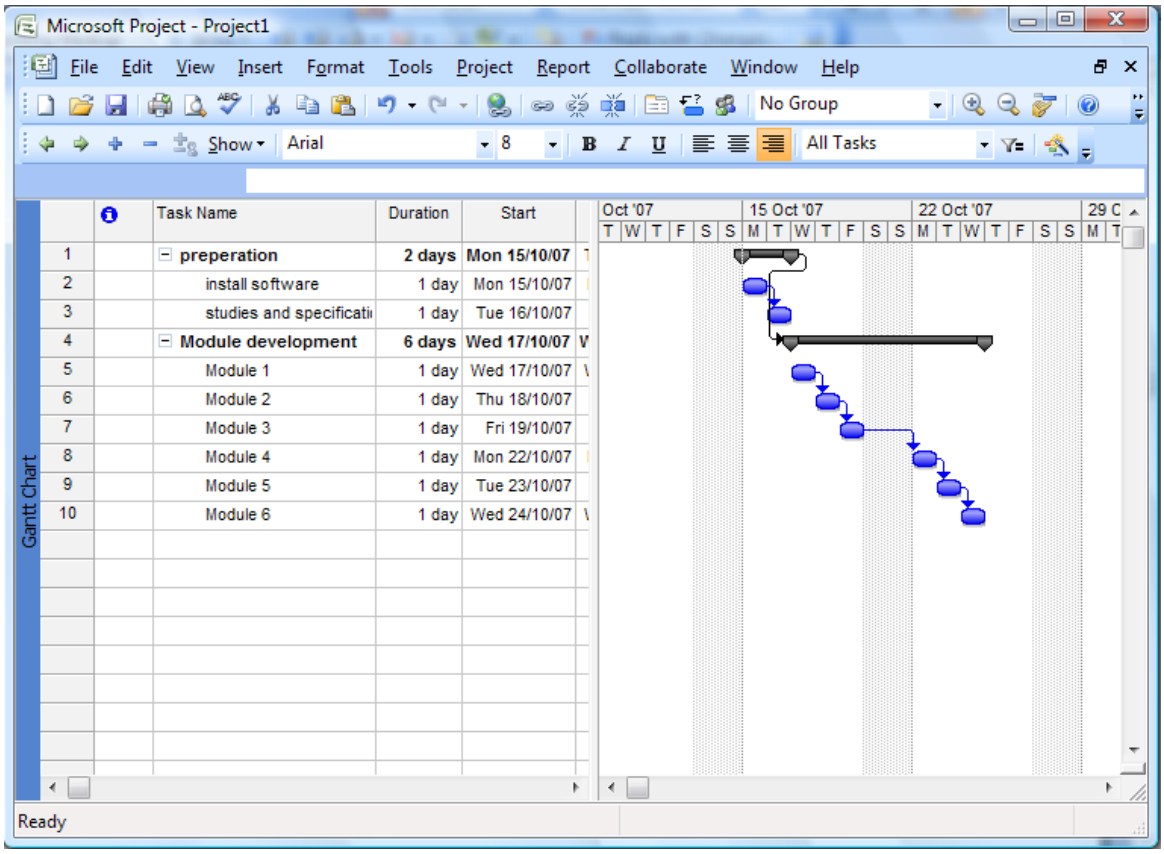
There are five buttons on the far left of the Formatting Toolbar which can be used on a single task or group of highlighted tasks.

	Promote the selection to the next higher level
	Demote the selection to the next lower level
	Expands a summary task to show its subordinate tasks
	Collapse a summary task to hide the subordinate tasks
	Hide assignments
	Show all subtasks, or those of a particular outline level.

☞ Create Summary Tasks and Link Tasks

- Select the sub tasks Install Software and Studies and Specification.
- Indent the tasks to make them sub tasks.
- While they are still selected link them (chain button or Edit menu).
- Make Sections 1 to 8 sub tasks and link them.
- You can also link the summary task Preparation to Module development.

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☞ Insert Tasks

If you miss a task from your list you can insert a blank line and type the information.

- Click on Studies and Specifications.
- Right-click and choose New Task to insert a blank row.
- Type **Backup Installation** as the task and set the time to 1h.

☞ Add New Tasks

Having added tasks you can continue adding tasks at the end of your project.

- Move to the line below Section 8 and type **Slide Development**.
- Set the Duration to 5d.
- Outdent the task by clicking on the **Outdent** button.
- Link it to Section 8.
- Save your project as **Training Course**.
- Save with a baseline.

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☞ Change Duration

The default duration is 1day. To change this you can simply overtype with the new value.



- Change the durations for each Module to 2d.
- When the Wizard appears **READ THE INFORMATION** then click on the **OK** button.
- Select all the remaining tasks.
- Open the Task information box.
- Set the duration to 1.5d

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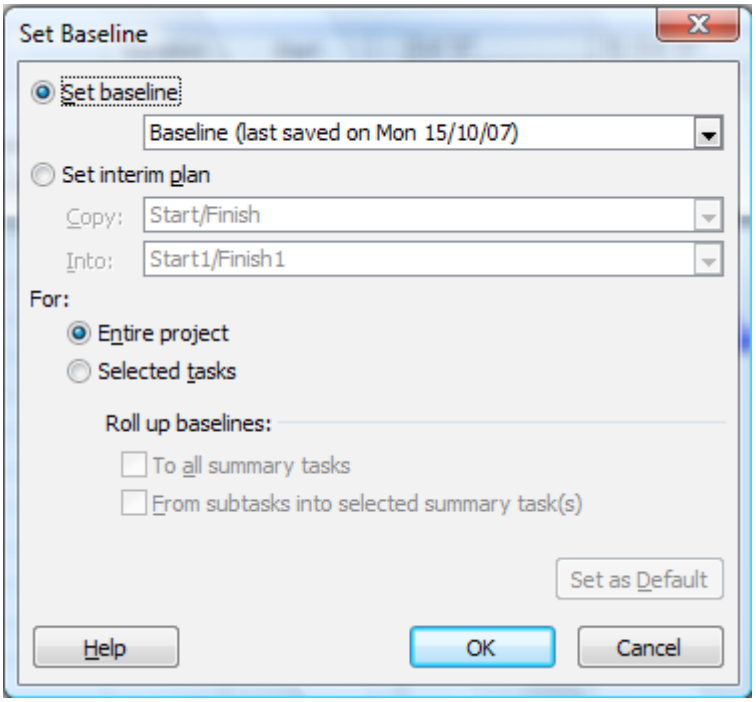
☞ Multiple Links

Tasks can be linked to more than one predecessor.

- Select the task **Slide Development**, hold down the **Ctrl** key and select the task **Module 1**.
- Click on the Link Tasks button.
- When you get a warning, try to figure out why the link is illogical. Look at the Gantt chart if it makes it easier to think.

☞ Save a Baseline

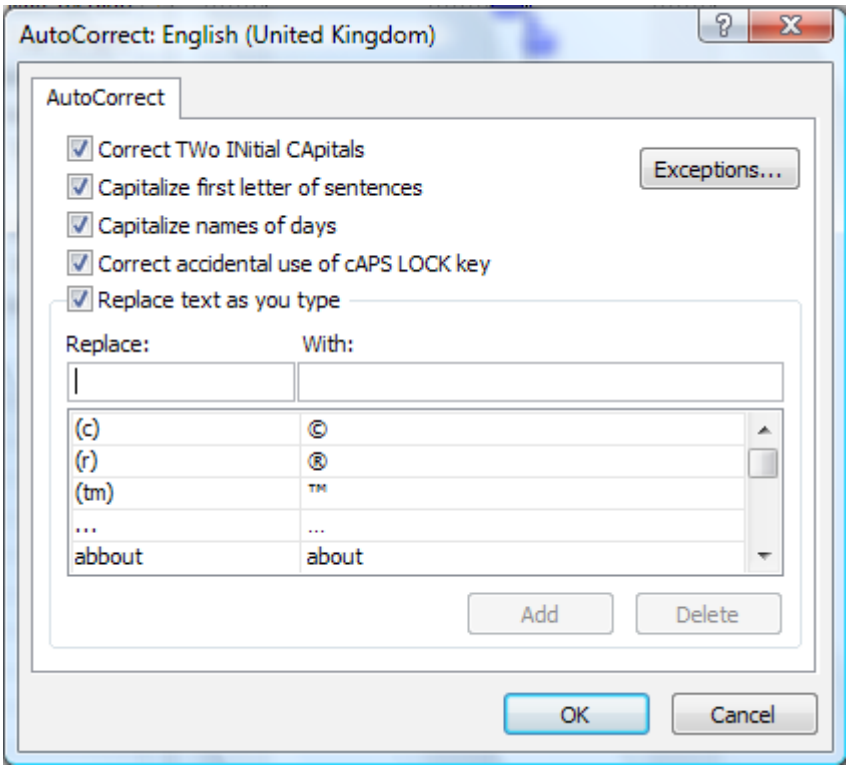
- Select Tools, Tracking, Save Baseline from the menus.
- Click on the Save baseline radio button.
- Click on the OK button.



3.8 The AutoCorrect Feature

Microsoft Project 2003 provides the AutoCorrect feature that used to belong only to Word. AutoCorrect will assist you in entering and editing tasks. AutoCorrect automatically corrects mistyped words and expands abbreviations as you type. Project provides an extensive list of predefined typing corrections and abbreviations, and enables you to customize the list by adding your own. The AutoCorrect dialog box, as shown below, allows you to type an entry (the abbreviation or word that you want to replace) and a replacement (the text or graphic you want to use as a replacement).

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☞ To enter an AutoCorrect entry:

- From the Tools menu, choose AutoCorrect.
- Type the name of the entry in the Replace text box.
- Type the name of the replacement in the With text box.
- Choose Add.
- Choose OK.

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Section 4 Resource Management

At the end of this section you will have:

- **An understanding of the various elements of entering and managing resources.**
- **Entered resources.**
- **Assigned resources to the tasks.**
- **Completed the end of the design and planning stage.**
- **Used the Outlining view**



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4.1 Resources

The management of resources is a major feature of MS Project. It is possible to see how each one is being used and determine the times when they are under or over utilised. The system can adjust the project to eliminate over allocation of a resource. We can think of resource data being stored in a database, which is the partner to the task database. The Microsoft Project system merges the data in the two databases to provide the facilities that are available.

There are a number of ways we can view the resources, as the following topics will show.

Define the Resources

Complete the following table for the resources used in the Project Plan

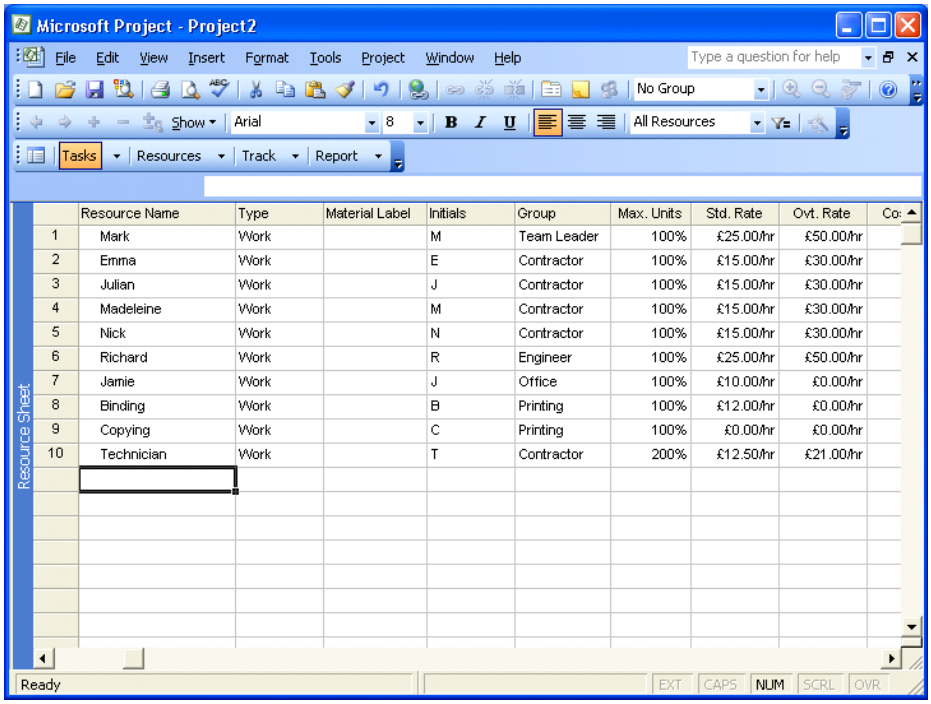
ID	Name	Initials	Max Units	Std Rate	Ovt Rate	Cost/Use	Accrue

When you build a large pool of resources¾for example, 200 employees¾the best place to enter this information is in the Resource Sheet. If there are only a few resources working on the project, however, you might enter them "on the fly" using the Resource Assignment dialog box.

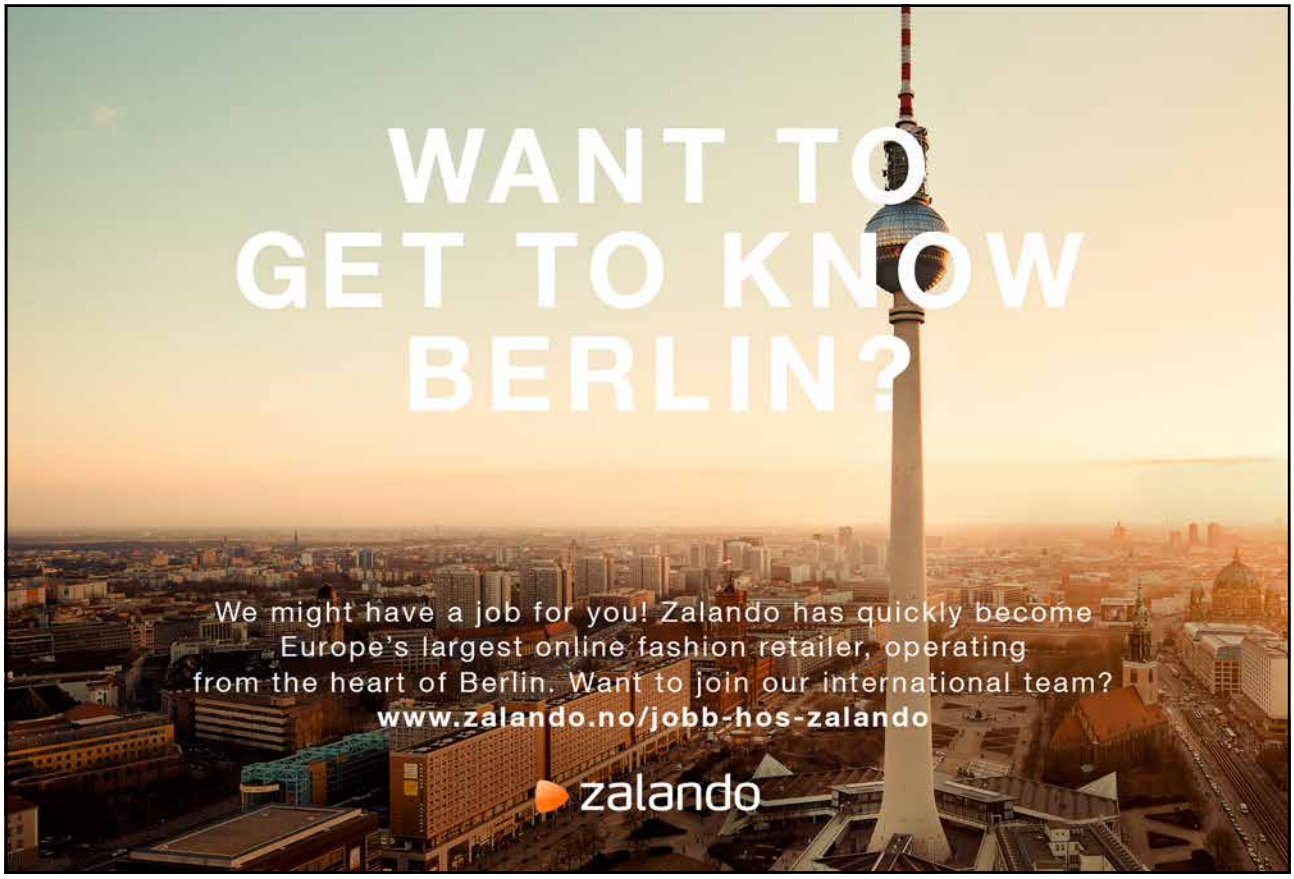
Reviewing and Navigating the Resource Sheet

The Resource Sheet contains an array of required fields for entering resources. A Resource Sheet is illustrated below:

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	Resource Name	Type	Material Label	Initials	Group	Max. Units	Std. Rate	Ovt. Rate	Co:
1	Mark	Work		M	Team Leader	100%	£25.00/hr	£50.00/hr	
2	Emma	Work		E	Contractor	100%	£15.00/hr	£30.00/hr	
3	Julian	Work		J	Contractor	100%	£15.00/hr	£30.00/hr	
4	Madeleine	Work		M	Contractor	100%	£15.00/hr	£30.00/hr	
5	Nick	Work		N	Contractor	100%	£15.00/hr	£30.00/hr	
6	Richard	Work		R	Engineer	100%	£25.00/hr	£50.00/hr	
7	Jamie	Work		J	Office	100%	£10.00/hr	£0.00/hr	
8	Binding	Work		B	Printing	100%	£12.00/hr	£0.00/hr	
9	Copying	Work		C	Printing	100%	£0.00/hr	£0.00/hr	
10	Technician	Work		T	Contractor	200%	£12.50/hr	£21.00/hr	



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4.2 Enter Resources

There are two separate stages in adding Resources to be managed by the system. They first must be entered in the **Resource Sheet** to identify them as being available. Secondly the available resources are associated with the respective tasks.

Adding Resources to the Resource Sheet

You add resources to the Resource Sheet in rows. The columns identify the fields. The table below summarizes the information that you can store in the Resource Sheet.

Field	Description
Resource Name	The name given to a resource. It can be the name of an individual or a type of group.
Initials	The abbreviated name for the resource.
Group	A resource can be placed in a group, which can be used by a filter to show only group members, it is also possible to use the group name to view all members of the group together.
Max. Units	The percentage (number) of resource units available. This is applicable only if using a type of resource. For example, you might have three technicians, but you can have only one Emma Cheesman.
Std. Rate	The standard cost of the resource per hour, week, or month.
Ovt. Cost	The overtime cost of the resource per hour, week, or month.
Cost/Use	The cost of the resource every time it is used.
Accrue At	This field identifies when the cost of the resource is added to the running total of the project. The options are at the "Start", at the "End" or "Prorated" which means updated at the end of each time unit as the resource is used.
Base Calendar	The base calendar to which you assign the resource.
Code	You can assign an alphanumeric code to each resource. The Code field can be used to associate an accounting code for use of the resource. This is an additional method of allocating the costs of the project as required. and use it for sorting, filtering, and reporting.

☞ To add resources to the Resource Sheet:

- From the **View** menu, choose Resource Sheet.
- In the Resource Name cell, type the Resource Name.
- Press **TAB**
- Type the necessary information.
- Repeat steps 3 and 4 until you have entered all the information needed for the resource.
- Press **ENTER**
- Press **HOME**
- Repeat steps 2 through 7 for each resource.

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A resource is **defined** under the following headings:-

ID:

Name:

Initials:

Group:

Max Units:

The next items relate to calculating the cost of the resource. They can be defined by setting a cost level for a specific period or a cost for each time the resource is used.

Std. Rate:

Ovt. Rate:

Cost/Use:

Accrue At:

Code:

☞ Practice adding resources

Mark Woolway	M	Team Leader	100%	£25.00/h	£50.00/h	£0.00	Prorated	Standard
Emma Cheesman	E	Contractor	100%	£15.00/h	£30.00/h	£0.00	Prorated	Standard
Julian Cook	J	Contractor	100%	£15.00/h	£30.00/h	£0.00	Prorated	Standard
Madeleine Adams	M	Contractor	100%	£15.00/h	£30.00/h	£0.00	Prorated	Standard
Nick Pavey	N	Contractor	100%	£15.00/h	£30.00/h	£0.00	Prorated	Standard
Richard Buller	R	Engineer	100%	£25.00/h	£50.00/h	£0.00	Prorated	Standard
Jamie Price	J	Office	100%	£10.00/h	£0.00/h	£0.00	Prorated	Standard
Binding	B	Printing	100%	£12.00/h	£0.00/h	£0.00	Prorated	Standard
Copying	C	Printing	100%	£0.00/h	£0.00/h	£0.00	Prorated	Standard
Technician	T	Contractor	200%	£12.50/h	£21.00/h	£0.00	Prorated	Standard

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- Select the **Resource Sheet** from the **View** menu.
- Enter the resources from the above table.

4.3 View Resources

As with Tasks there are a number of ways that the Resources can be seen in addition to viewing the Resource Sheet.

The Resource Sheet

Where it is necessary to view all the resources, this is best done in the top part of the screen or a single pane view. Selecting **Resource Sheet** from the **View** pull down menu will show a complete list of the resources required by the tasks.

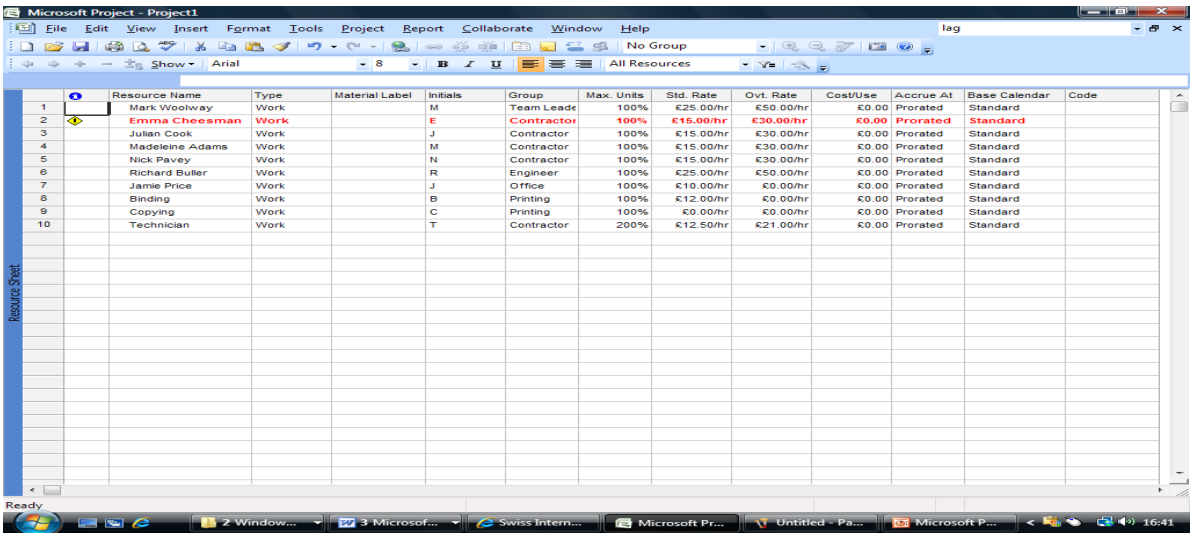
A valuable feature in this view is that those resources that have been over allocated will be shown in a different colour so attention is drawn to the areas that need to be changed.

The Resource Graph

The best use of this view is in the lower pane with the Gantt Chart at the top.

The Resource Graph will only show one resource at a time and will automatically switch to the resource allocated to the task highlighted in the top pane.

One great value of this view is that it shows you when a resource is over-allocated. See below, where Emma is over-resourced.



Viewing Resource Usage

Where this view is selected in a single pane or the top pane it will display a list of the resources and the amount of work each is allocated on a daily basis. As with the Resource Sheet those resources that are over allocated are shown in a different colour and can easily be identified.

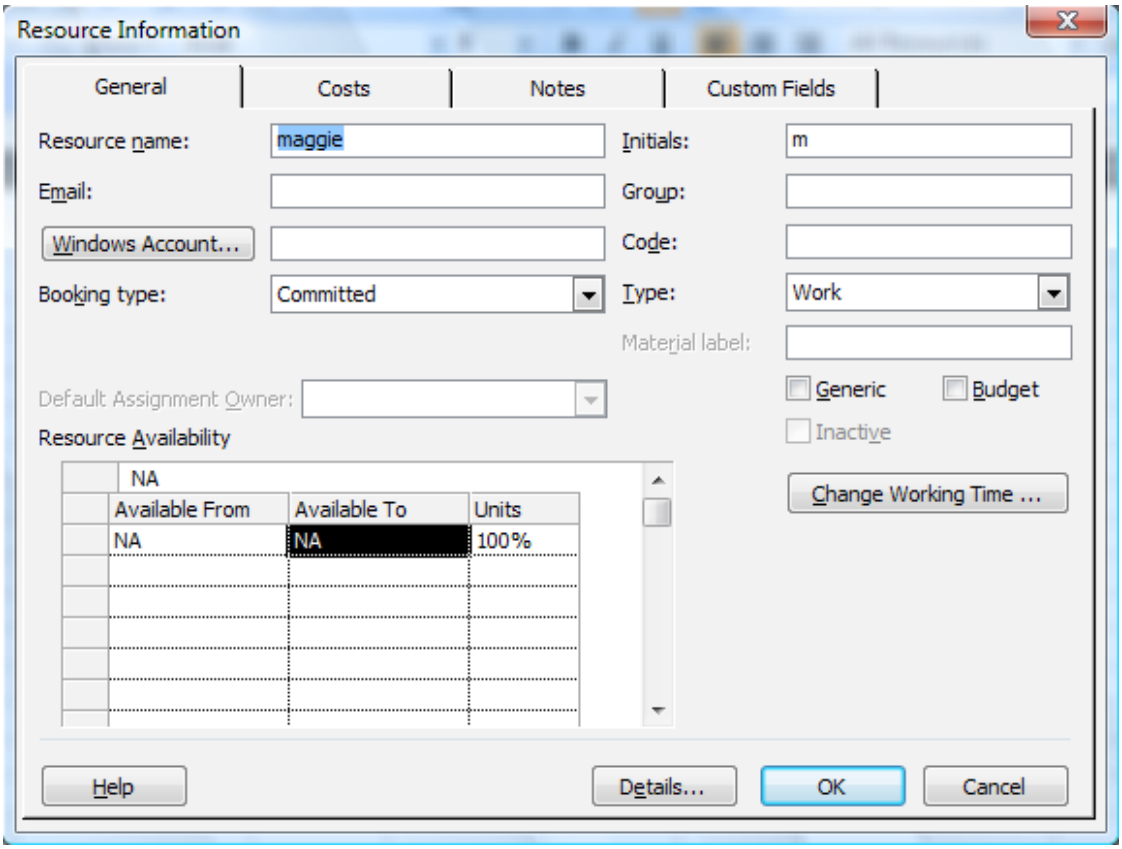
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If this view is selected in the lower pane of a two-pane screen it will only display the work for the task that is highlighted in the upper pane.

Viewing the Details of a single Resource

In any of the above views it is possible to examine the full details of a single resource. You place the pointer on the resource and call up the Resource Edit Form by pressing the **Information** button on the tool bar.

Or, simply double-click a resource.



4.4 Set Resource Calendars

Where a resource may not be available for all the working hours in the base calendar, it can be allocated to a special calendar, which will define the specific working hours for that resource only.

Setting the resource calendar is the same as setting the base calendar. The feature is accessed from the **Tools** menu and the **Change Working Time** command.

Having selected this box it will then be necessary to select the resource for which the calendar will be used. The respective working and nonworking times can then be entered.

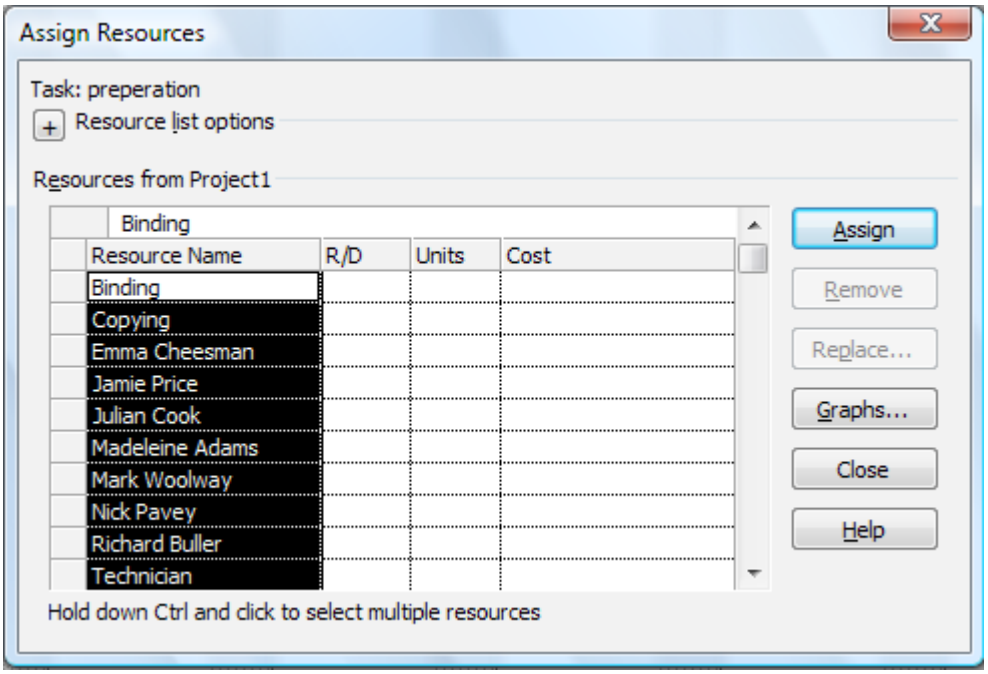
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Where a task uses the resource the schedule will be calculated on the basis of when it will be available from the resource calendar.

Allocate Resources

There are a number of methods of allocating a resource to a task.

The most direct method is to select a view in which a task can be selected and then call up the Resource Assignment box using the resource button (The head) on the Tool Bar.



In the **Assign Resources** box a list of the resources can be viewed and the required selection made.

There are other views in which a resource can be allocated to a task and it does not matter which is used, the preference is up to of the user.

- Select the **Gantt Chart** view from the **View** menu.
- For each task that needs resources allocated place the pointer on the task and call up the **Resource Allocation** form by pressing the Resource Button (the head). Pull down the list of resources and select as appropriate.

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☞ Assign Resources

Assign the following resources:

Resource	Task
Richard Buller	Backup Installation
Technician	Install software
Emma Cheesman	All Modules
Julian Cook	Studies and Specifications
Nick Pavey	Slide Development

4.5 Editing Resource Information

Once you enter resource information, you may need to modify it. In the real world, employees come and go, and as a result, project managers need to add and delete resources.

Editing Data Entered by the User

You edit resources in the entry box just as you edit fields in the Gantt Chart and the Network Diagram Chart. After you make your changes, click the Enter button to accept changes, or click the Cancel button to retain the original entry.



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☞ To edit data entered by the user:

- On the Resource Sheet, select the cell to edit.
- Press **F2**

OR

- Click in the entry box.
- In the entry box, edit the cell contents.
- Press **Enter**

☞ Edit a Resource

- As Project Manager, you have managed to reduce the hourly rate of Richard Buller.
- Using the Resource Sheet, double-clicking and using the resource Information form, change his hourly rate to £20 and his overtime rate to £30.

4.6 Review Resource Usage

It is vital that after entering all the tasks and allocating resources the utilisation of each resource is checked for over allocation. Where this occurs it will mean that the project timetable will not be met and the completion date will be delayed.

The two views listed below can be used to examine where over allocation has happened. It is also possible to check these using the search button from the tool bar.

An over allocation can be cleared by increasing the capacity of the resource i.e. extra units, or by moving the tasks. The latter option is known as resource levelling and the system can calculate automatically if required.

Resource Usage

This view will show a table of all the resources and the respective usage in hours per day. Where the resource is over allocated the entry will be in an alternative colour.

Resource Graph

The Resource Graph is used to display the usage of a single resource and will highlight the times the resource is over allocated.

The Graph can be accessed from the **View** pull down menu and will show the current selected resource

Resource Levelling

Levelling is the process of moving tasks in the time scale to redistribute the use of resources where they are over allocated.

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This process can be automatic whenever there is a resource over allocation or manually from the **Tools** pull down menu.

☞ Levelling Resources

- View the **Resource Usage** and the **Resource Graph** and where there is an over allocation, consider methods of correcting them.
  Note: All conflicts must be cleared before moving to the next step

4.7 Inserting and Deleting Resources

You can add resources either at the end of the Resource Sheet or between existing resources. You can also delete unwanted resources from the Resource Sheet.

☞ To insert a resource

- Switch to the Resource Sheet.
- Select a cell in the row above the one where you want to add a resource.
- Press the [**INSERT**] key on your keyboard.

OR

- From the Insert menu, choose Insert New Resource.

☞ To delete resources

- Select a cell in the row of each resource you want to delete.
- Press [**DELETE**]

OR

- From the Edit menu, choose Delete Resource.

Working with Resources on the Fly

If the resource you want to add is not part of the resource pool, you can add that resource in the Resource Assignment dialog box. At the same time, you can assign the resource to tasks. You can add information about the resource later by using the Resource Sheet or the Resource Information dialog box.

You can easily add resources while you are in the middle of assigning resources by using the Resource Assignment dialog box, and then continue to assign resources. If you realize that a resource is missing, you can simply add it at any time.

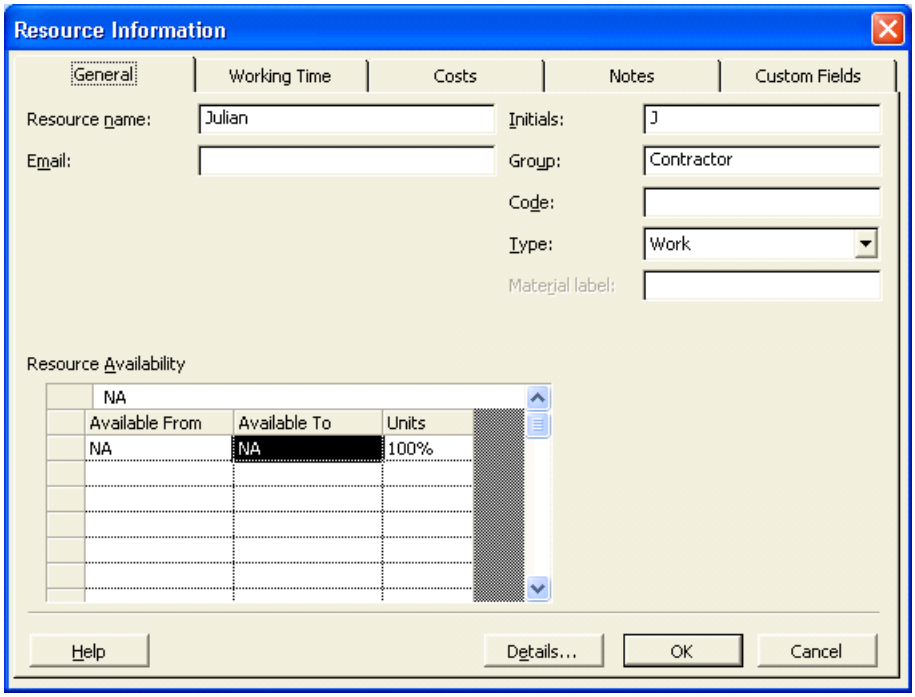
☞ To add resources on the fly:

- On the Standard toolbar, click the Resource Assignment button.
- In the Resource Assignment dialog box, select a blank Name cell at the end of the resource list.
- Type the name of the resource.
- Press **Enter**

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Updating Resource Information on the Fly

Adding resources on the fly does not automatically allow you to update information about the resource. You either have to switch to the Resource Sheet to add or update information, or you have to open the Resource Information dialog box, as illustrated below. All the fields that are available on the Resource Sheet are also available in the Resource Information dialog box.



☞ To update resource information on the fly

- On the Standard toolbar, click the Resource Assignment button.
- In the Resource Assignment dialog box, double-click the resource for which you want to add or update information.
- In the Resource Information dialog box, make the necessary changes.
- Choose OK.

4.8 Planned Time Scale

When all the tasks and resources have been added and any resource problems cleared and provided the scheduled dates are acceptable, this marks the completion of the design and planning stage.

All of the data entered into the project at this time can be considered as the base line for the project to be managed from and measured to. Microsoft Project will hold this data by using the **Tracking, Save Baseline** command from the **Tools** menu.

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From this point, as the tasks are completed and the data updated it will be possible to make comparisons with the plan and determine how late (or early!!!) the completion date will be and where the problems are occurring.

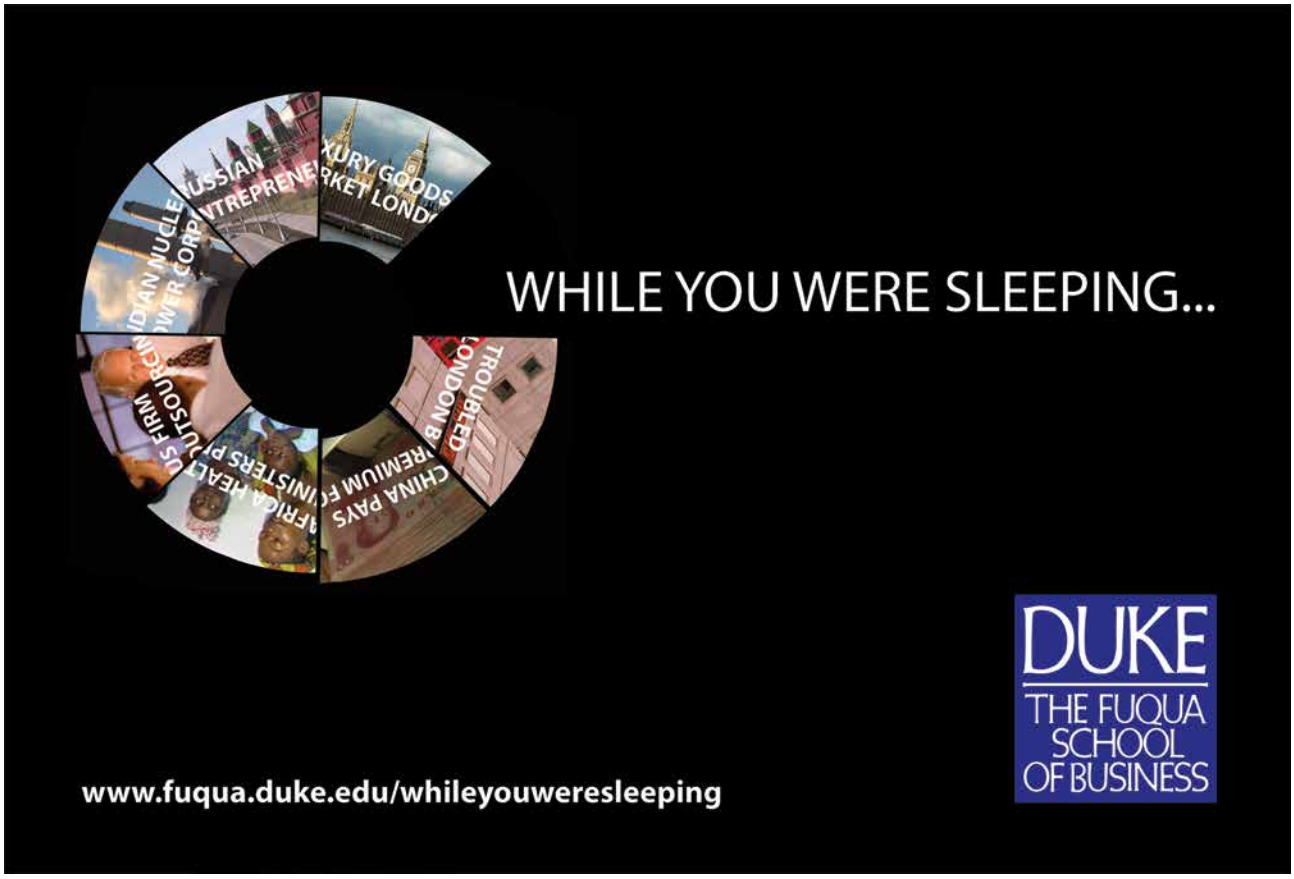
This can be seen using the **View, More views, Tracking Gantt.** The Plan appears as grey bars under the Gantt bars.

Lead Time and Lag Time

Certain tasks can be started before other tasks are completed. For example Slide Development can start any time after Module 1.

☞ Set lead time on Slide Development:

- Select the task.
- Open the Task Information box.
- Select the Predecessor Tab.
- Change the type from 'Finish to Start' to 'Finish to Finish'.
- In the Lag box type .5d.
- Click on the **OK** button.



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4.9 The Outlining View (Summary)

Outlining is used for organization and categorization. Outlining lets you arrange tasks in a hierarchical structure and identify project phases. You can use a *top-down method* for outlining, which allows you to enter the major phases first and then add details. You can also use a *bottom-up method*, which allows you to enter all tasks first, and then group them in phases once their relationships become clear. With Outlining, you can display and/or report only certain levels of detail.

Outlining allows you to organize tasks at up to ten outline levels. Outlining is indicated on the Gantt Table by the task's level of indentation and on the Gantt bar chart by the bar shape and pattern. Normal tasks are *subordinate tasks*, or subtasks, when have a higher-level task above them. A task that summarizes tasks at the next level down is called a summary task. Microsoft automatically determines the summary task values (duration, cost, and so on) based on information from the subtasks at the next outline level down

4.10 Promoting and Demoting Tasks

You can *demote* a task to a lower level in the outline by indenting it. If a task is not already at the highest outline level, you can *promote* it to a higher level by outdenting it. You can create a summary task by demoting the tasks immediately following it.

☞ To promote a task:

- Select the task you want to promote.
- From the Tools menu, choose Outlining, and then choose Outdent.

OR

- On the Formatting toolbar, click the Outdent button.

☞ To demote a task:

- Select the task you want to demote.
- From the Tools menu, choose Outlining, and then choose Indent.

OR

- On the Formatting toolbar, click the Indent button.

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Section 5 Display Data and Cost Factors

At the end of this section you will

- **have an understanding of the capabilities of Microsoft Project to display project data.**
- **filter the project for specific information.**
- **be able to examine the cost factors for the project.**

5.1 Using Gantt Charts

Gantt Chart Principals

The Gantt Chart is a horizontal bar chart that represents each task in the time scale of the project. Each task entered in the project will be shown.

The Gantt Chart can be used to visually keep track of the tasks and also can be used to identify important points about each task. For example those tasks that together control the completion date are known as the critical Path and are shown differently to highlight that fact.

Gantt Charts can be printed and therefore form the significant part of a regular report which shows the current progress, comparison with the original plan, and the new projected completion data.

Changing the split between chart and table

When the Gantt Chart view or the Task Entry view is selected, the Gantt Chart area has part of a table on the left and the bars on the right.

It is possible to move the dividing line between these two areas with the mouse pointer. When the pointer is on the dividing line it changes to two vertical lines with left and right arrows. If the left button is held down then the dividing line can be moved to the left or right as required.

Changing Time Scale

The time scale on the right side of the chart can be changed directly by using the **View, Zoom** command or with the **Format, Timescale** command.

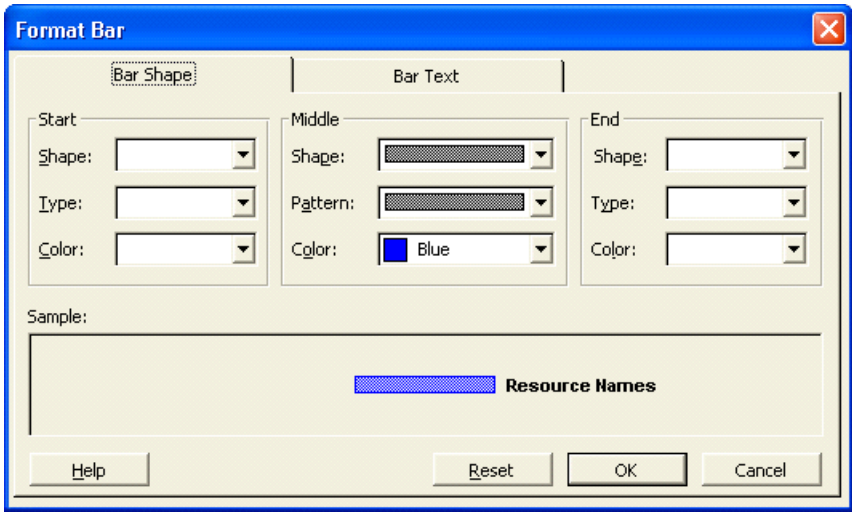
Where the latter is chosen, the dialog box will provide the ability to change both the major and minor time scales and within each of these it will be possible to alter the units, the label, the alignment, and the count of the interval between the unit labels.

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Changing the Palette

The Palette can be accessed from the **Format, Bar** command or by double clicking on the Gantt Chart.

This dialog box can be used to maximise the information provided by the format of the bars on the Gantt Chart. The appearance of the existing bars can be changed and additional bars can be used. The full use of colour is also possible.



For example it is possible to show the planned, actual and scheduled times for each task.

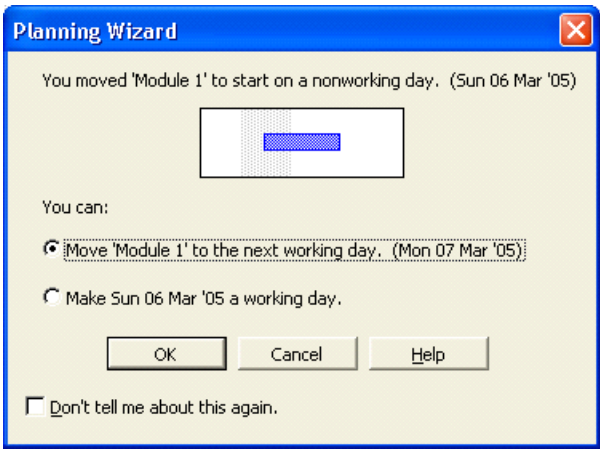
Editing Tasks

One method of editing tasks is to change them on the Gantt Chart using the mouse and dragging the changes into place.

Positioning the pointer at the beginning of a bar will change the pointer to a % sign and if the left button is pressed and the symbol dragged to the right a box will appear showing the amount of "percentage complete" that has been added. This information will then be updated throughout the system.

If the pointer is placed in the centre of the bar it will change to a four-way arrow pointer. If the left button is held down it is then possible to drag the bar to the left or right in time, the changing dates options will be shown in a dialog box (see below) and, on clicking OK, the files will be updated with the new information.

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The third possibility is that the duration of the task can be changed by changing the length of the bar. If the pointer is positioned at the right end of the bar it will change into a right pointing arrow. If the left button is held down it is then possible to change the length of the bar and the respective change in duration is shown in a box.

☞ View the Gantt Chart

Select **Gantt Chart** from the **View** menu.

- Place the pointer on the border between chart and table, hold the button down and drag the border left or right.
- From the **Format** menu, select **Timescale**. Try changing the major and minor scales as view the changes at the bottom of the box.
- From the **View,** menu choose **Zoom.** Try out the various changes that can be made to the amount seen.

5.2 Using Network Diagram Charts

Network Diagram Chart principals

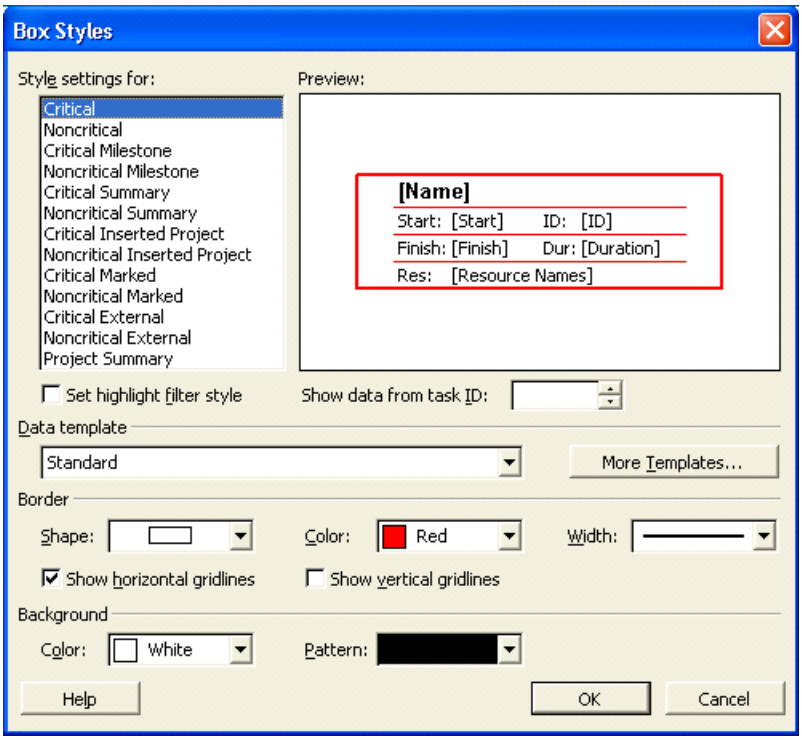
The term Network Diagram is derived from **P**rogramme **E**valuation and **R**eview **T**echnique which was invented for the management of Projects by paper based systems. This chart is a diagrammatic view of the tasks where the position of the task and the lines linking them together represent the detailed steps that comprise the project. It is possible to modify the project in the Network Diagram by adding extra tasks or nodes and creating the links. Each task on the chart is known as a node and within the node is a selection of the data that is relevant to the task. The Nodes can have different boarders which represent the task type.

Using the Format, Box Styles command

*Note: You must have the Network Diagram view active to see Box Styles as an option in the **Format** menu.*

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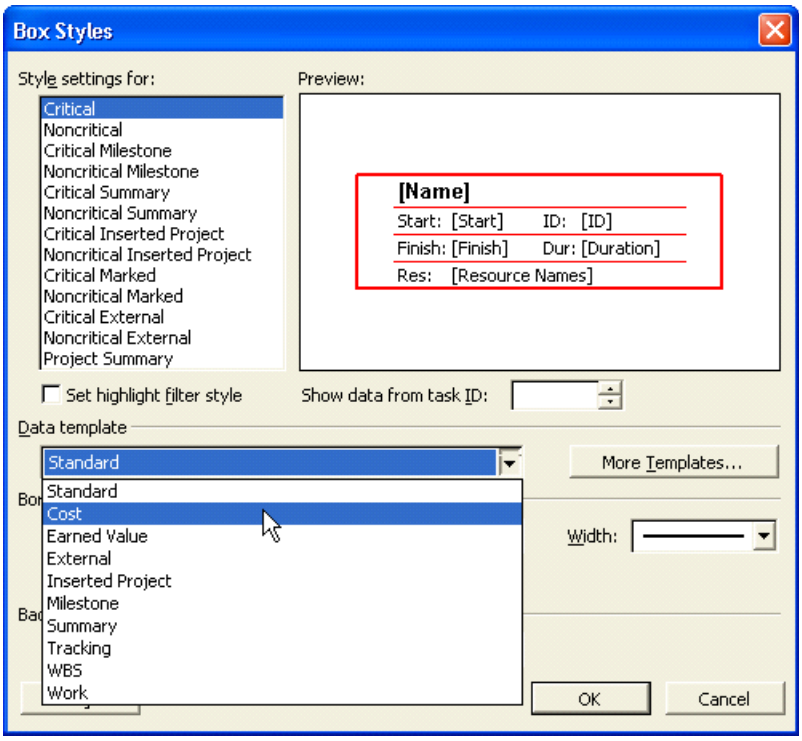
Within this command box (shown below) there are many different types of Task, each of which can be given a combination of line style and colour to provide visual identification, for example the critical tasks can have thick red borders.



Changing the contents of a Node

The **Data Template** command in the **Box Styles** dialog allows change to the data that the node displays.

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It is also possible to set the following:-

Grid Lines between the five areas - on or off.

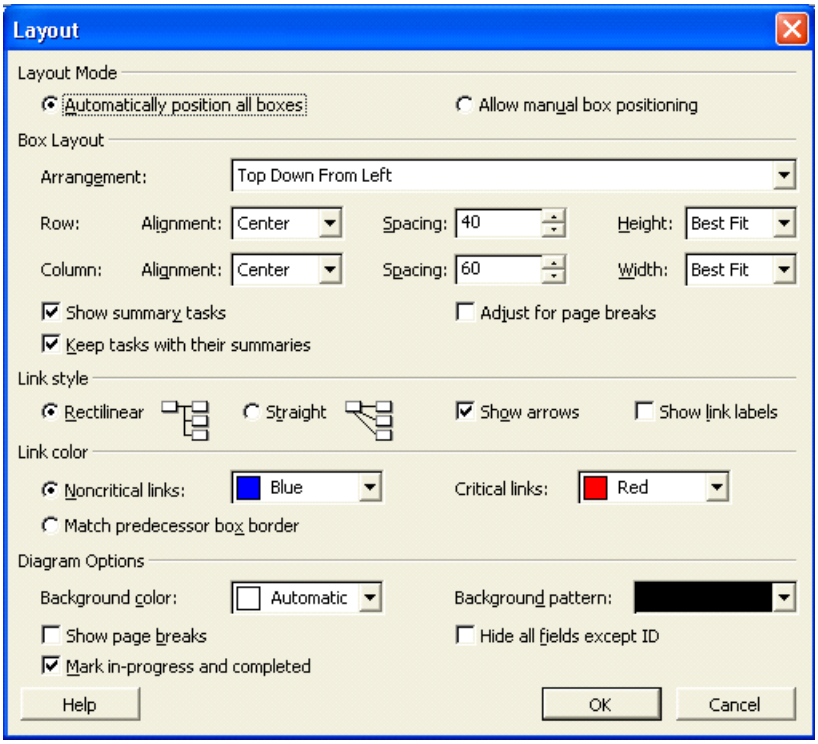
The cross marks that indicate “In progress” or “Complete” on or off.

The format for the display of the dates.

The selection of the size of the Node - Small, Medium or Large.

Changing the layout of the Chart

The **Format, Layout** command gives the ability to select how the interconnecting lines between the nodes will be shown.



☞ View the Network Diagram Chart

- Select **Network Diagram Chart** from the **View** menu.
  Note: Make sure the project is open.

- From the **View,** menu, select **Zoom** and change the size of the Nodes
- From the **Format** menu, select **Box Styles** and examine the different style of borders that are available to show different types of tasks.
- Also check how the contents may be changed using the **Boxes** Tab.

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- From the **Format** menu, select **Layout** and examine the different ways the lines can be displayed.
- You can drag the boxes with the mouse. If you **Zoom** to 50% or **Entire Project** you will find it easier.
- Double Click on a Node and examine the options in the dialog box.

Zooming In and Out

Zooming in can be useful when you want to focus on a particular Network Diagram box or group of Network Diagram boxes. Alternatively, zooming out can be helpful when you want to see as much of the project as possible on one screen. The more you zoom out, the more clear the paths become and the more unclear the text becomes.

☞ To zoom in:

- On the Standard toolbar, click the Zoom In button.
- Repeat until you reach the desired size.

☞ To zoom out

- On the Standard toolbar, click the Zoom Out button.
- Repeat until you reach the desired size.

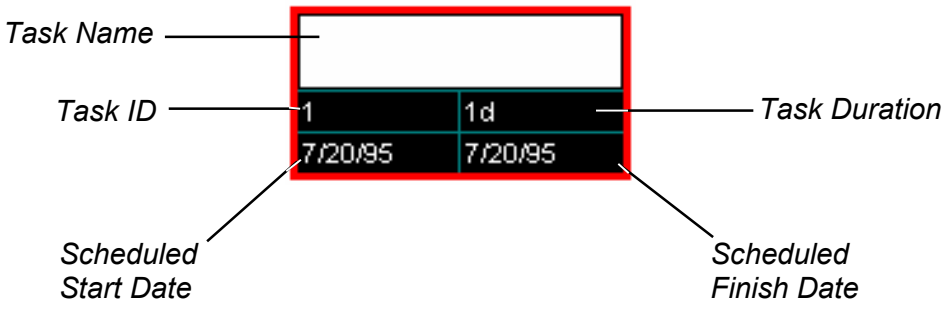
5.3 Elements of the Network Diagram Chart

Network Diagram Charts map out the tasks that are required to complete a project. The critical path consists of the sequence of tasks in the dark Network Diagram boxes. You can't delay the tasks in the critical path because they have no slack. You can, however, delay any of the light boxes because they are not critical.

Like the Gantt Chart, the Network Diagram Chart includes a status bar, an entry bar, and the toolbars. In addition, the Network Diagram Chart displays page guidelines so that you can control the placement of the Network Diagram boxes on a page-by-page basis. The perforated line on the right of the screen represents a page break.

The Network Diagram Box

A Network Diagram box consists of five fields, as illustrated below. The Task Name, Task ID, Scheduled Start Date, Scheduled Finished Date, and Task Duration are the default fields in the Network Diagram box. The Task Name field is white because it is currently ready for user input.



The Network Diagram Box and Its Default Fields

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Navigating the Network Diagram Chart

The table below summarizes how to move around the Network Diagram Chart with your keyboard and with your mouse.

Movement	Keys	Mouse
To a different Network Diagram box	Arrow keys	Click the Network Diagram box
Next field in Network Diagram box	**Tab** or **Enter**	Click the field
Previous field in Network Diagram box	**Shift+Tab** or **Shift+Enter**	Click the field
Page up or page down	**Page Up** or **Page Down**	On the vertical scroll bar, click the gray area above or below the scroll box
Page to the left or right	**Ctrl+Page Up** or **Ctrl+Page Down**	On the horizontal scroll bar, click the gray area on the left or right of the scroll box to scroll left or right in increments
To upper-left Network Diagram box in project	**Home**	
To lower-right Network Diagram box in project	**End**	
To upper-left Network Diagram box on screen	**Ctrl+Home**	
To lower-right Network Diagram box on screen	**Ctrl+End**	

Navigating the Network Diagram Chart

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☞ To navigate a Network Diagram Chart:

- Use the appropriate keystroke or mouse movement.

5.4 More about Tables

Much of the data the system holds can be entered and/or viewed in a table format. The system will allow the user to organise these tables so they can be used to maximum effect.

The content of the table is also dependent on the area of project management they are used for. There is a difference between tables for Tasks and table for Resources.

The idea of changing a table structure is to make its use more appropriate to the users needs in terms of what information the user needs to view. For a task table there are over one hundred possible columns from which the structure can be chosen. For Resources the number of possible columns is approximately thirty.

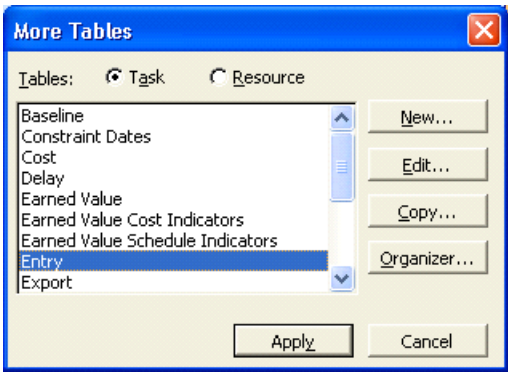


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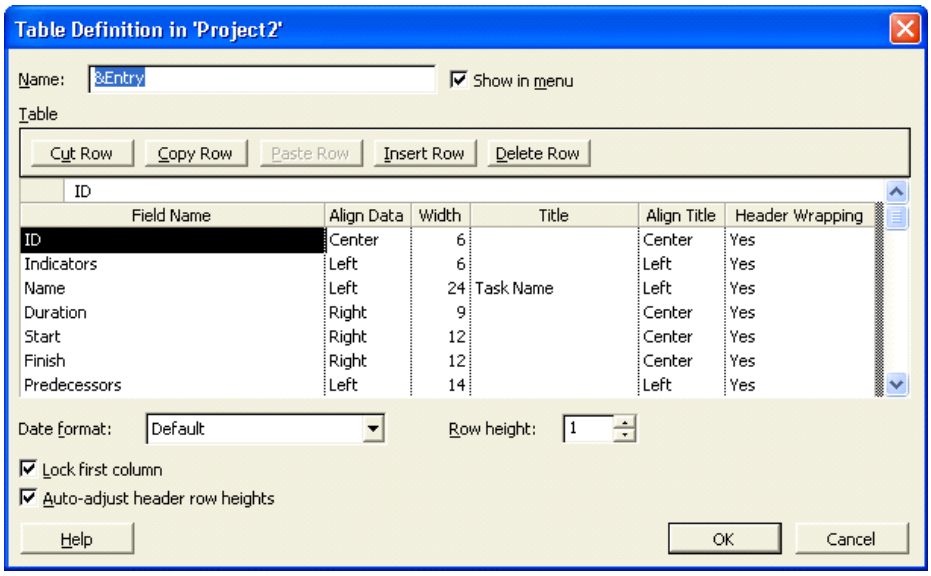
Modifying (or editing) an existing Table

From the menus, select **View, Table, More Tables**. The box that will be shown can be switched between Task tables or Resource tables.



From whichever aspect is selected, a list of the existing tables will be shown. Select from this list the one you want to change/modify. To move to the next screen use the mouse to press the **Edit** button.

The following dialog box (shown on the next page) will show a list of the fields that make up the table. It will be possible to change the width of an existing column, the alignment, or the column title. If no title is shown, the field name is used as the title.



If a new field is required then position the pointer at the required position and use the mouse to press the **Insert [Row/ Column]** button. A space will appear and the new field can be selected. To remove a field, point to it and use the mouse to press the **Delete** button.

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Creating a New Table

New Tables can be created by selecting the **New** button from the **More Tables** box.

The structure of the table is built up by selecting the fields in the appropriate order.

You can only apply tables to tabular views such as the Resource Sheet, the Task Sheet, or the tabular portion of the Gantt Chart. When you choose the Table option, the list of available tables will change, depending on the current view. On the View menu, the Table option will also list the default table type, separated from the word Table by a colon.

☞ To apply a table

- Choose a tabular task or resource view.
- From the View menu, choose Table.
- From the Table submenu, choose the desired table.

Note: *If the table you need doesn't appear in the Table submenu, choose More Tables. From the More Tables dialog box, select the desired table, and then choose Apply.*

5.5 Applying Filters

A filter is used to screen out unwanted tasks for a particular view to identify a particular aspect of the current state of the project, for example the filter can be set to show the tasks that make up the Critical Path.

As with tables there are different filters for tasks and resources and depending on the current view the appropriate list of filters will be shown for the selection.

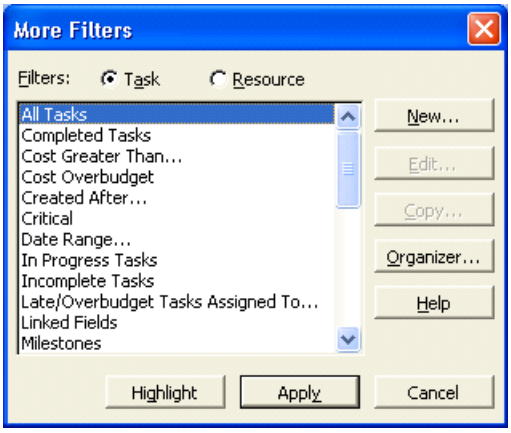
A filter is selected by choosing **Project Filtered for** and making the appropriate selection.

*Note: When a filter is no longer required the **All Tasks** filter should be reselected.*

Customising Filters

Modifying an existing filter or creating a new filter is managed from the **Project, Filtered for, More Filters** command. This will display a dialog box very similar to that for define tables (below).

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Select **New** then the following entries will be required.

Name: Enter the name of the new filter

Field Name: Select a field from the entry bar list.

Test: Select a test from the entry bar list.



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Values: Enter the value that the filter is to check for

Op: If there are to be more than one condition then this is the operator that will link them together. A selection may be made from the entry bar list.

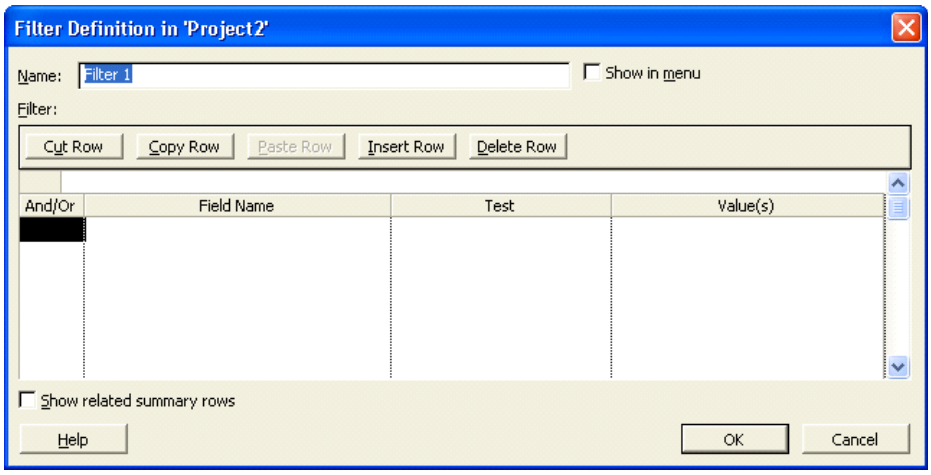
The following check boxes can also be set:-

Show Related Summary Tasks

This sets the filter to include the Summary tasks where appropriate.

Show in Menu

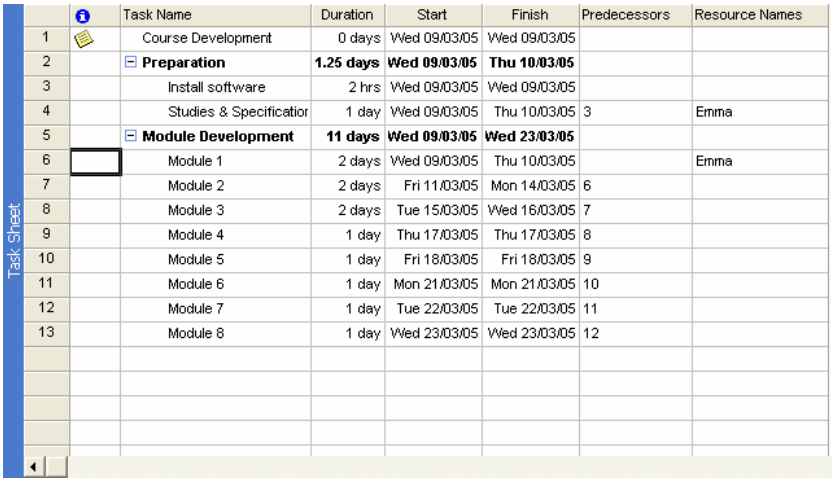
The filter will be shown in the menu.



☞ Working with Tables and Filters

- From the View menu, select More Views, Task Sheet.

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Task Sheet

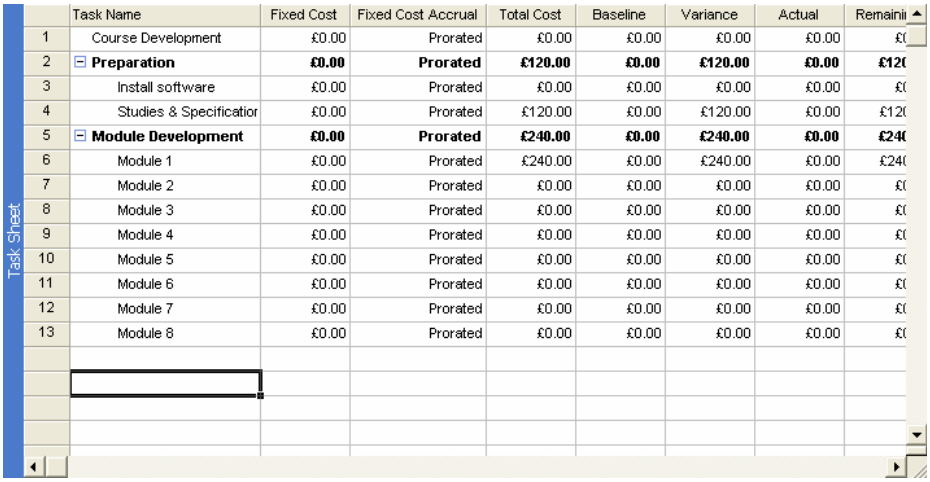
	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	Course Development	0 days	Wed 09/03/05	Wed 09/03/05		
2	**Preparation**	**1.25 days**	**Wed 09/03/05**	**Thu 10/03/05**		
3	Install software	2 hrs	Wed 09/03/05	Wed 09/03/05		
4	Studies & Specificatior	1 day	Wed 09/03/05	Thu 10/03/05	3	Emma
5	**Module Development**	**11 days**	**Wed 09/03/05**	**Wed 23/03/05**		
6	Module 1	2 days	Wed 09/03/05	Thu 10/03/05		Emma
7	Module 2	2 days	Fri 11/03/05	Mon 14/03/05	6	
8	Module 3	2 days	Tue 15/03/05	Wed 16/03/05	7	
9	Module 4	1 day	Thu 17/03/05	Thu 17/03/05	8	
10	Module 5	1 day	Fri 18/03/05	Fri 18/03/05	9	
11	Module 6	1 day	Mon 21/03/05	Mon 21/03/05	10	
12	Module 7	1 day	Tue 22/03/05	Tue 22/03/05	11	
13	Module 8	1 day	Wed 23/03/05	Wed 23/03/05	12	

- From the View, Table menu select and view the different tables
- From the View, Table, More Tables menu select Define Tables and press the Edit button. Try to make some changes to the table and then view the result.
- From the Tools, Filtered for menu select different filters and see how it changes the Table.
- Examine the Critical filter and try the Edit button to view how the filters are set up. Try making changes to the filter.

5.6 Examining the Cost Factor

When all the tasks and their associated resources have been entered, it is possible to view the calculated costs of the project and there are several views that can be used.

The first view is the Task Sheet together with the Cost Table (**View, Table, Cost**).



Task Sheet

	Task Name	Fixed Cost	Fixed Cost Accrual	Total Cost	Baseline	Variance	Actual	Remaini
1	Course Development	£0.00	Prorated	£0.00	£0.00	£0.00	£0.00	£(
2	**Preparation**	**£0.00**	**Prorated**	**£120.00**	**£0.00**	**£120.00**	**£0.00**	**£12(**
3	Install software	£0.00	Prorated	£0.00	£0.00	£0.00	£0.00	£(
4	Studies & Specificatior	£0.00	Prorated	£120.00	£0.00	£120.00	£0.00	£12(
5	**Module Development**	**£0.00**	**Prorated**	**£240.00**	**£0.00**	**£240.00**	**£0.00**	**£24(**
6	Module 1	£0.00	Prorated	£240.00	£0.00	£240.00	£0.00	£24(
7	Module 2	£0.00	Prorated	£0.00	£0.00	£0.00	£0.00	£(
8	Module 3	£0.00	Prorated	£0.00	£0.00	£0.00	£0.00	£(
9	Module 4	£0.00	Prorated	£0.00	£0.00	£0.00	£0.00	£(
10	Module 5	£0.00	Prorated	£0.00	£0.00	£0.00	£0.00	£(
11	Module 6	£0.00	Prorated	£0.00	£0.00	£0.00	£0.00	£(
12	Module 7	£0.00	Prorated	£0.00	£0.00	£0.00	£0.00	£(
13	Module 8	£0.00	Prorated	£0.00	£0.00	£0.00	£0.00	£(

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This view will list all the tasks as originally entered and the associated columns will contain the cost data in terms of the Planned cost, the Actual cost and how much has been used so far.

This table is very useful in identifying those tasks that are causing the greatest pressure on the total cost of the project.

A second way is to chose the Resource Usage then use **Format, Details,** and choose **Cost** or **Cumulative Cost.**.

Note: The cost totals will not include any material costs.

Changing the Project to Reduce Costs

To state the obvious, there are a number of ways the costs can be reduced as follows.

- A reduction in the cost per time period of each resource.
- A reduction in the time a task will take to complete.
- Where possible a reduction in the use of labour in overtime hours.
- It may be that where some resources are in slack time and cannot be used, a waiting charge is payable. This can be minimised by re-scheduling to minimise this resource slack time.

MS Project does not have any easy cost reducing commands, where any of the above savings can be made the necessary changes to the project must be entered by using the editing methods available.

☞ View the Cost Factors

- Select View, Resource Usage then choose Format, Details.

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Section 6 Printing and Reporting

At the end of this section you will be able to

- **Print your project file.**
- **Create reports from your project.**

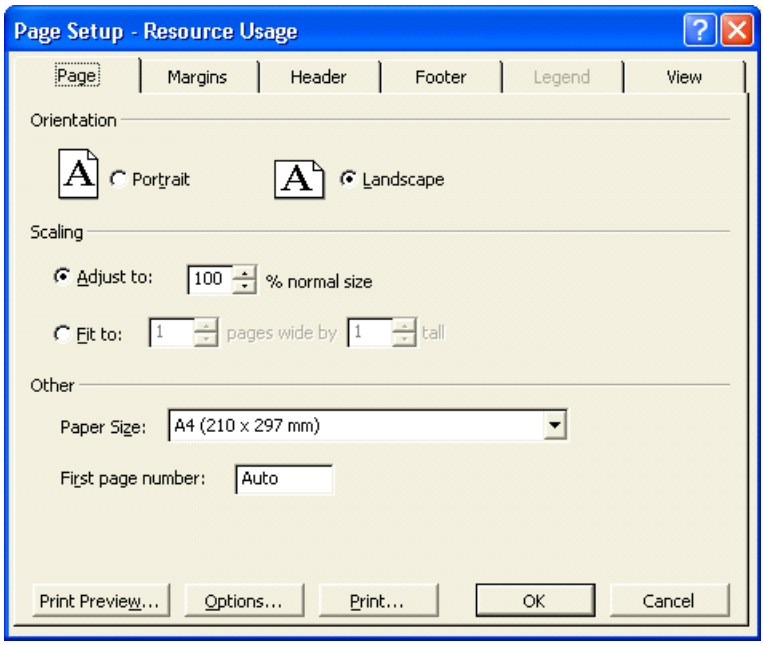


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6.1 Page Setup

Before printing it is advisable to check the Page Setup which is accessed from the **File** pull down menu.



In the dialog box the following tabs can be selected: -

Page: Choose orientation and scaling.

Margins: Set the margins and borders.

Header: This box can hold a Header that will be printed on every page.

Footer This box can hold the footer for every page.

Legend: This is for printing Gantt and Network Diagram views only

View: Choose number of columns of task form etc. if appropriate.

In the Header, Footer, and Legend buttons are available to enter specific information. For example the following are available:

These include **date, time, page number** and **number of pages**.

The **Page size** is available under the **Printer, Setup** option.

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☞ Check the Settings for the Gantt Chart

- Ensure you are viewing the **Gantt Chart**.
- Pull down the **File** menu.
- Select **Page Setup**.
- Select **Landscape** in the **Page** box.
- Check the other settings and change any that are not correct.
- Press the **Print Preview** button.

6.2 Printing Charts, Forms and Sheets

If the **Page Setup** has been completed for the views that are to be printed then it is only necessary to bring the required view on to the screen and select the print command. The settings in **Page Setup** will align all the necessary settings for the printer and then print the view in as many pages as it takes.

There is a **Print Preview** button in the print dialog box for viewing the printout on screen; single or multiple sheets can be shown. It is good practice to check this before printing.

Other charts are also fairly easy to produce.

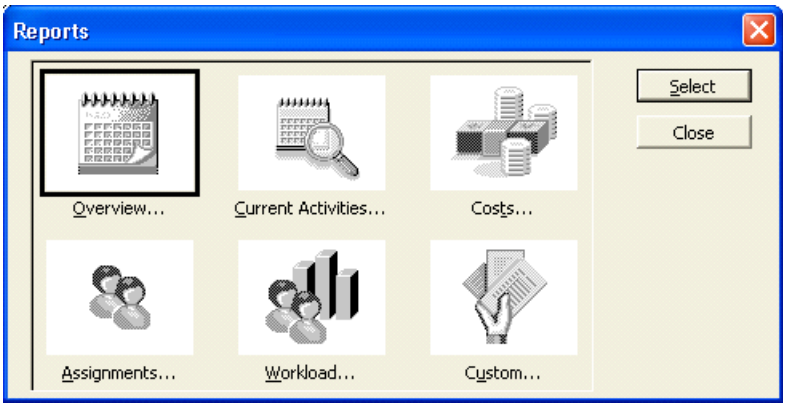
☞ Print the Gantt Chart

- When in Preview select **Print** from the menu.

6.3 Reports Setup

MS Project has a number of pre-defined reports based on six principal types which can be used directly, changed as required. Alternatively, completely new reports can be created. The system is picture driven and simple to use.

Access is from the **View, Reports** command. A dialog box appears in which the following type of report can be chosen:



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Overview:	Summarizes the most significant project information, including numbers of tasks and resources, task and schedule status, costs, start and finish dates, and so on.
Current Activities:	Displays information about top-level tasks for the entire project. Includes summary tasks and task notes.
Costs:	Shows critical tasks for the entire project. Includes summary and successor tasks and task notes.
Assignments:	Shows project milestones. Includes summary tasks and task notes.
Workload:	Shows working and nonworking times for resources for the entire project duration.
Custom:	Use an existing report to create a new one.

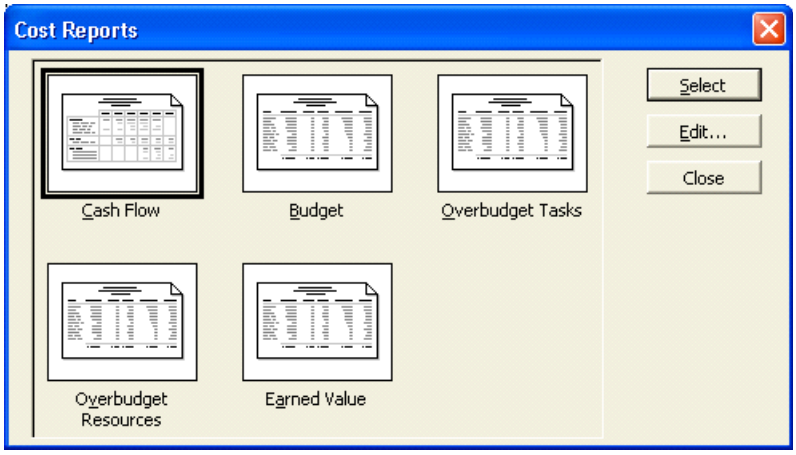
After selecting one of the above you then choose **Select** and a second box will appear that will have a number of pre-defined options depending on the base of the report.



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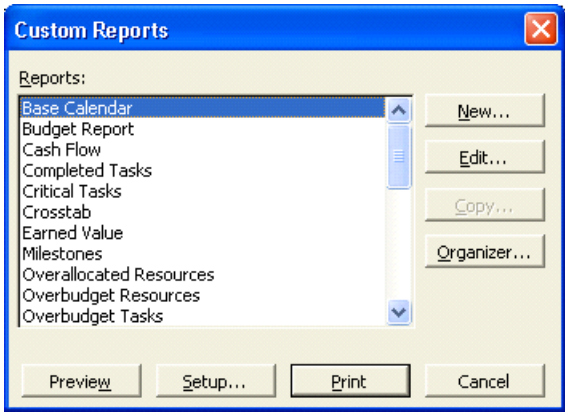
Creating or Editing Reports

Below is the sub set of reports based on costs.



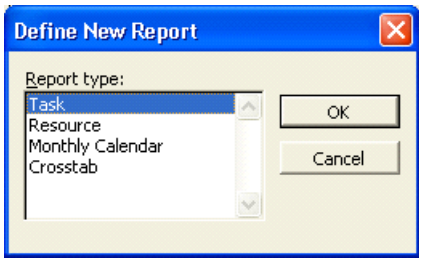
Most of your reports will be available from the pre-selected ones. The Custom choice will allow you to design a very specific report if required. Using this feature will hopefully now be familiar to you as the principle is not dissimilar to and easier than editing tables and filters.

When creating a custom report format the Custom Report box will display 25 options which can be used directly or edited according to your needs.

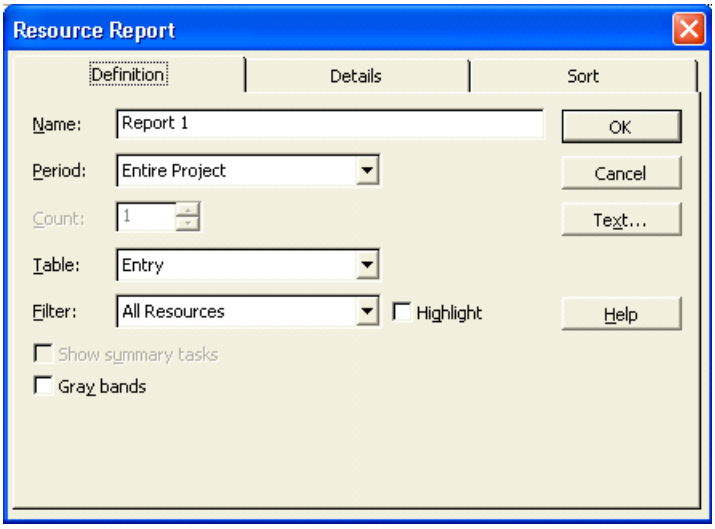


Clicking New will offer a sub set of possible new reports.

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From this point, most options are choices.



When the required settings have been made the new report will be available for printing.

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6.4 What You Can Print

A Project Overview

To Print	Use
The number of tasks and resources, the project cost, the total amount of work, and the project start and finish dates.	Project Summary report (Overview reports)
A list of the highest-level summary tasks showing the scheduled start and finish dates, the percentage completed the cost, and the work.	Top-Level Tasks report (Overview reports)
A list of project phases (summary tasks) and durations and a Gantt bar chart showing summary tasks.	Gantt Chart view, Entry table, and Summary tasks filter
A list of milestone tasks sorted by start date.	Milestones report (Overview reports)
Working and non-working time in your schedule.	Working Days report (Overview reports)

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Task Information

To Print	Use
A list of tasks and durations and a Gantt bar chart showing tasks, durations, task relationships, and assigned resources.	Gantt Chart view, Entry table, and All Tasks filter.
Scheduled tasks in a calendar format.	Calendar view and All Tasks filter.
A list of tasks showing assigned resources and the amount of work assigned to each resource per week.	Task Usage report (Workload reports).
A list of tasks showing start and finish dates and assigned resources.	Task Sheet view, Entry table, and All Tasks filter.
A list of critical tasks showing the scheduled start and finish dates and the predecessors and successors of each task.	Critical Tasks report (Overview reports).
A flow chart, or network diagram, showing all tasks and task relationships.	Network Diagram Chart view.

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Cost information

To print	Use
A summary of resource costs.	Resource Sheet view, Cost table and All Resources filter.
Cost information broken down by task and resource over time.	Crosstab report with tasks selected under Row, Cost selected under Column, and With Resource Assignments selected in Crosstab Report dialog box.
A list of planned and actual resource costs.	Resource sheet view and Cost table.
The cost of each task per week, along with the total cost of all tasks per week and the total cost of each task.	Weekly Cash Flow report (Cost reports).
A list of resources whose costs are going to exceed the baseline cost.	Overbudget Resources report (Cost reports).
A graph showing cumulative cost per resource over the life of the project.	Resource Graph view with Cumulative Cost chosen from Details submenu on Format menu.
A list of tasks showing whether you are ahead of or behind schedule as compared with the actual costs incurred.	Earned Value report (Cost reports).
A list of tasks showing the budgeted cost of each task and the variance between budgeted costs and current costs.	Budget report (Cost reports).
A list of tasks whose costs are going to exceed the baseline cost.	Overbudget Tasks report (Cost reports).

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Information about resource usage

To print	Use
A list showing detailed work information for each resource.	Resource Sheet view, Work Table, and All Resources filter.
A list of resources showing the tasks to which each resource is assigned and the amount of work assigned to each resource per week.	Resource report (Assignment reports).
A list of resources showing their assigned tasks, the work scheduled for each task, the start and finish dates, and additional resource information.	Who Does What report (Assignment reports).
A list of resources showing their assigned tasks and the daily work scheduled for each task.	Who Does What report (Assignment reports).
A list showing resource use over time, along with the cost, the work, and the pay rate of each resource.	Resource Usage view, Summary table, and All Resources filter.
A graph showing the amount of work assigned to each resource over time.	Resource Graph view and All Resources filter.
A resource's tasks, broken down by week.	Weekly To-Do List report (Assignment reports).
A list of over allocated resources and the tasks to which they are assigned.	Over allocated Resources report (Assignment reports).

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Information that shows progress

To print	Use
A list of tasks that are currently in progress showing the months in which each task occurs.	Tasks In Progress report (Current Activity reports).
A list of tasks showing the actual start and finish dates, the percentage of each task completed, and the actual and remaining task durations.	Gantt Chart view, Tracking table, and All Tasks filter.
A list of tasks starting within a time period that you specify.	Tasks Starting Soon report (Current Activity reports).
A list of tasks that haven't started.	Unstarted Tasks report (Current Activity reports).
A list of tasks that should have started by the date you specify.	Should Have Started Tasks report (Current Activity reports).
A list of tasks showing the scheduled start and finish dates, the baseline start and finish dates, and the difference between scheduled and baseline dates.	Task Sheet view, Variance table, and All Tasks filter.
A list of the tasks that have been rescheduled to occur after their baseline start dates.	Slipping Tasks report (Current Activity reports).
A list of completed tasks.	Task Sheet view, Entry table, and Completed Tasks filter.
A list of completed tasks showing the months in which each task occurred	Completed Tasks report (Current Activity reports).

☞ Check the Reports Available

- Select **View, Reports** from the menus.
- Select one of the reports and press the **Select** button.
- Check one of the default reports and press the **Select** button. A preview is shown.

☞ Print a Report

- Select as above.
- Press the **Print Preview** button.

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6.5 Reports by Report Type

To Print	Use
The number of tasks and resources, the project cost, the total amount of work, and the project start and finish dates.	Project Summary report (Overview reports)
A list of the highest-level summary tasks showing the scheduled start and finish dates, the percentage completed the cost, and the work.	Top-Level Tasks report (Overview reports)
A list of milestone tasks sorted by start date.	Milestones report (Overview reports)
Working and non-working time in your schedule.	Working Days report (Overview reports)
A list of critical tasks showing the scheduled start and finish dates and the predecessors and successors of each task.	Critical Tasks report (Overview reports).

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The cost of each task per week, along with the total cost of all tasks per week and the total cost of each task.	Weekly Cash Flow report (Cost reports).
A list of resources whose costs are going to exceed the baseline cost.	Overbudget Resources report (Cost reports).
A list of tasks showing whether you are ahead of or behind schedule as compared with the actual costs incurred.	Earned Value report (Cost reports).
A list of tasks showing the budgeted cost of each task and the variance between budgeted costs and current costs.	Budget report (Cost reports).
A list of tasks whose costs are going to exceed the baseline cost.	Overbudget Tasks report (Cost reports).

A list of project phases (summary tasks) and durations and a Gantt bar chart showing summary tasks.	Gantt Chart view, Entry table, and Summary tasks filter
A list of tasks and durations and a Gantt bar chart showing tasks, durations, task relationships, and assigned resources.	Gantt Chart view, Entry table, and All Tasks filter.
A list of tasks showing the actual start and finish dates, the percentage of each task completed, and the actual and remaining task durations.	Gantt Chart view, Tracking table, and All Tasks filter.

To Print	**Use**
Scheduled tasks in a calendar format.	Calendar view and All Tasks filter.

A list of tasks showing start and finish dates and assigned resources.	Task Sheet view, Entry table, and All Tasks filter.
A flow chart, or network diagram, showing all tasks and task relationships.	Network Diagram Chart view.

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A graph showing cumulative cost per resource over the life of the project.	Resource Graph view with Cumulative Cost chosen from Details submenu on Format menu.

A list of resources showing the tasks to which each resource is assigned and the amount of work assigned to each resource per week.	Resource report (Assignment reports).
A list of resources showing their assigned tasks, the work scheduled for each task, the start and finish dates, and additional resource information.	Who Does What report (Assignment reports).
A list of resources showing their assigned tasks and the daily work scheduled for each task.	Who Does What report (Assignment reports).
A resource's tasks, broken down by week.	Weekly To-Do List report (Assignment reports).
A list of overallocated resources and the tasks to which they are assigned.	Overallocated Resources report (Assignment reports).

A list showing detailed work information for each resource.	Resource Sheet view, Work Table, and All Resources filter.

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A list showing resource use over time, along with the cost, the work, and the pay rate of each resource.	Resource Usage view, Summary table, and All Resources filter.
A graph showing the amount of work assigned to each resource over time.	Resource Graph view and All Resources filter.

To Print	**Use**
A summary of resource costs.	Resource Sheet view, Cost table and All Resources filter.

A list of tasks showing assigned resources and the amount of work assigned to each resource per week.	Task Usage report (Workload reports).
Cost information broken down by task and resource over time.	Crosstab report with tasks selected under Row, Cost selected under Column, and With Resource Assignments selected in Crosstab Report dialog box.
A list of planned and actual resource costs.	Resource sheet view and Cost table.

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A list of tasks that are currently in progress showing the months in which each task occurs.	Tasks In Progress report (Current Activity reports).
A list of tasks starting within a time period that you specify.	Tasks Starting Soon report (Current Activity reports).
A list of tasks that haven't started.	Unstarted Tasks report (Current Activity reports).
A list of tasks that should have started by the date you specify.	Should Have Started Tasks report (Current Activity reports).
A list of the tasks that have been rescheduled to occur after their baseline start dates.	Slipping Tasks report (Current Activity reports).
A list of completed tasks showing the months in which each task occurred	Completed Tasks report (Current Activity reports).

A list of tasks showing the scheduled start and finish dates, the baseline start and finish dates, and the difference between scheduled and baseline dates.	Task Sheet view, Variance table, and All Tasks filter.
A list of completed tasks.	Task Sheet view, Entry table, and Completed Tasks filter.

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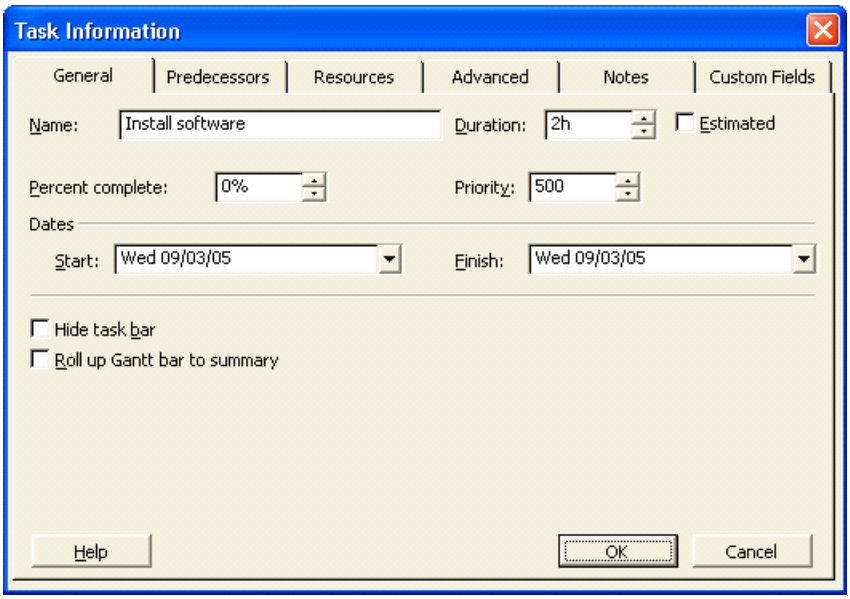
Section 7 Updating the Project

At the end of this section you will be able to

use the various methods available to update project data.

7.1 More on the Task Information Form

The Task Information Form is divided into six separate pages, each of which can provide very useful information to the project manager.



General

Includes Start and Finish dates, %complete and Priority. It also includes boxes for Roll-up and Hide Gantt Bar.

Predecessors

Shows any predecessors set and allows you to add others, change the relationship and introduce Lag or Lead time.

Resources

You can add or modify resources plus change the task from being resource driven to fixed duration.

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Advanced

This includes Constraints, Sub-project and WBS codes plus a check box to mark as milestone.

Notes

This allows you to add a note. This could be a fuller description of the task, allowing you to use a cryptic title.

Custom Fields

This allows you to add custom fields to the task.

7.2 Updating Task Data

As the project progresses it will be necessary to enter updated information to indicate the beginning and ending of tasks. There could also be many reasons why some elements of any task may change and to be an effective project management tool the system must be updated with these alterations.

MS Project has a number of different ways to change data and the following explain the various methods.

Note: The system is dynamic in the sense that if a single element of a task is altered that has a bearing on other elements, the changes will be calculated and the other elements automatically updated.

Using a Task View

In the Task Entry View It is possible to change the value of the % Complete box in the Task Form part of the screen and this is the same box that would be seen in the Task Form.

The Task Pert does not have an entry space for changing task data except for the ability to highlight a task and then access the Task Edit Form.

The Task Sheet is the most user-friendly task view for this purpose provided the Tracking table is used. The default tracking table will have the following columns that can be used to directly enter progress data.

Act. Start: The actual date the task started.

Act. Finish: The actual date the task was completed.

% Comp.: If the task is started but not finished, the percentage of the work completed.

Act Dur.: The actual number of time periods that have been spent so far.

Rem. Dur.: The number of time periods left, calculated from the planned or scheduled length less the actual duration.

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Act. Cost: The value of calculated from the time periods completed and the cost of each resource assigned to the task.

Act. Work: A measure of the work completed in hours calculated from the actual duration and units of each resource.

Using the Task Edit Form

Where the screen is displaying any view in which a task is shown that can be selected with the mouse, the Task Edit Form can be accessed by pressing the Form Button on the Tool Bar or from the **View, More Views...** command.

From this form the data relating to the specific task can be changed which includes progress data

In addition to the fields in the Task Form the Task Edit Form has the following:-

Dates:

Current	These selections identify which dates are shown in the Start and
Baseline or Actual	Finish boxes. Where progress data is being entered, **Actual** should be selected.
Start:	Actual Start Date and time for the Task.
Finish:	Actual Completion date and time for the Task, if completed.
Constraint:	This box can set up a specific constraint on the start or end date for the task. There are a fixed number of choices which are shown in a list for selection.

The list may contain the following:-

	As Soon as Possible	As Late as Possible
	Finish no earlier than	Finish no later than
	Must finish on	Must start on
	Start no earlier than	Start no later than
Constraint Date:	This data is specified if any of the last six above are used.	
Subproject:	This box can be used to link the project to a Subproject. This is where a single task in the principal project is managed from a separate project file.	

Priority: This box can be used to prioritise different tasks in terms of levelling over allocated resources. The priority relates to which tasks can be delayed. The choices are as follows:-

Do Not Level	**Highest**	**Very High**
Higher	**High**	**Medium**
Low	**Lower**	**Very Low**
Lowest		

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WBS Code: WBS is Work Breakdown Structure which can be used to group tasks together as a an alternative structure to the ID numbers. If nothing is entered, ID number is shown.

Resources and Predecessors: These boxes show summary information only.

Tools, Tracking

This is a command that provides an update for all or a selection of tasks.

The Choices are : **Update Tasks, Update Project, Save Baseline.**

Within the form displayed the following are the boxes that appear:-

Name:	The Name of the Task.
Duration:	The stated duration of the Task.
%Complete:	The percentage complete if the task has been started.
Actual Start	The actual start date of the task
Actual Finish	If the task is completed, the actual finish date.

The form also displays the Current Start and Finish dates but these cannot be changed here.

Note:- Where any of the fields are not completed the system will calculate the revised data from the entries made e.g. % Completed calculated from the Actual time spent entry.

Update Tasks

This will set the instructions to apply to only the highlighted tasks.

Update Project

The system will put the current date here but a different date can be entered if appropriate.

For those tasks that are before the Update Date select one of the following:-

Set 0% - 100% Complete.

For those tasks that should be in progress at the Update Date the % Complete value will be set in proportion to the Duration and respective dates.

Set 0% or 100% Complete.

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If this option is selected then those tasks that have there start date and finish dates before the Update Date will have those dates set as the actual start and finish dates. where the task should be in progress no percentage complete values will be added.

Reschedule Uncompleted Work to start

This can be used to change the start date of those tasks that should have started but have slipped. the revised start date becomes the Update Date.

You can also choose either **Entire Project or Selected Tasks.**

Using the Mouse on the Gantt Chart

As discussed in the previous section it is possible to change the task data using the mouse

Positioning the pointer at the beginning of a bar will change the pointer to a % sign and if the left button is pressed and the symbol dragged to the right a box will appear showing the amount of "percentage complete" that has been added. This information will then be updated throughout the system.

If the pointer is placed in the centre of the bar it will change to a rectangle with left and right arrows. If the left button is held down it is then possible to drag the bar to the left or right in time, the changing dates will be show and as before the system will be updated with the new information.



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The third possibility is that the duration of the task can be changed by changing the length of the bar. If the pointer is positioned at the right end of the bar it will change into a right pointing arrow. If the left button is held down it is then possible to change the length of the bar and the respective change in duration is shown in a box.

7.3 Adding New Tasks

Using any Table View

This method will work for any view that is showing a table of tasks irrespective of the selected Table format.

Firstly place the pointer on the table at the point the new task is to be added.

Pressing the **Insert** key or selecting the **Insert, Insert Task** command will move down the tasks and create the space for the new task. The only element that will not move is the ID number, the subsequent tasks will be renumbered to create the space.

With the pointer on the newly created space enter the new task details as appropriate.

Using the Network Diagram Chart

When viewing the Network Diagram it is also possible to add a new task by manipulating the chart with the mouse.

Firstly it may be necessary to move nodes on the chart and this is done by placing the pointer on the border of the node where it will change to a circle with four arrows. If the left button is held down it will be possible to drag the node to a new position.

When the button is released the data will move to the new position and the linking arrows re drawn automatically to the new positions.

To create a new node place the pointer near the new position, hold down the left button and drag out a rectangle. When the button is released the rectangle will be set to the standard node size and can then moved into position as above.

The links to the new node can be created by placing the pointer in the middle of the previous node and dragging a line to the new node. When the button is releases a new arrow showing the link will appear.

A link can be deleted by placing the pointer on it and double clicking the left button. (where it will change to a plus sign), A dialogue box will appear with a number of options, one of which is to delete the link.

To enter the details of the new task the node must be highlighted and the Task Edit Form can be opened from the button on the tool bar.

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7.4 Entering Task Names and Durations

You can enter task names and durations from within the Network Diagram box. In addition, you can use the Task Information dialog box to enter task names and durations.

☞ To enter task names and durations from within the Network Diagram box:

- Select the Network Diagram box for which you want to enter information.
- If it is not already highlighted, select the Task Name field.
- Type the task name.
- Press **Tab** twice.
- Enter the task duration.

☞ To enter task names and durations using the Task Information dialog box:

- Double-click the Network Diagram box for which you want to enter information.

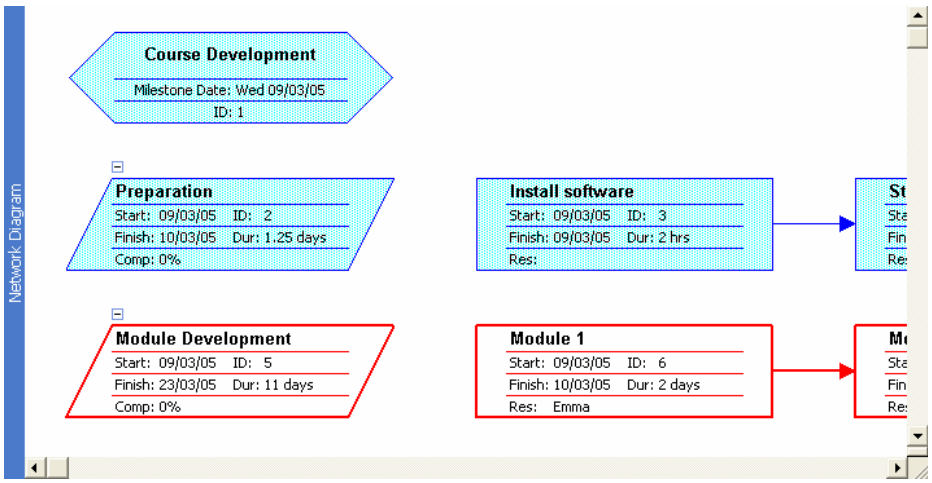
OR

- Select the Network Diagram box for which you want to enter information, and on the Standard toolbar, click the Information button.
- If it is not already selected, select the General tab.

- Enter the task name and duration.
- Choose OK.

7.5 Editing Task Details

You can edit task fields on the Network Diagram Chart in two ways. You can edit the fields from the entry bar, as shown below. As with the Gantt Chart, when you select a field, the contents of the field appear in the entry bar box. Click the Enter button to accept changes or click the Cancel button to retain the original entry.



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If the Network Diagram box doesn't display the field you need to edit, you'll have to make your changes in the Task Information dialog box. As in the Gantt Chart, when in edit mode, the same rules apply as in a word processor.

☞ To edit task details from the entry bar:

- Select the Network Diagram box you want to edit.
- Press **TAB** to move to the appropriate field.
- Press **F2**

  OR

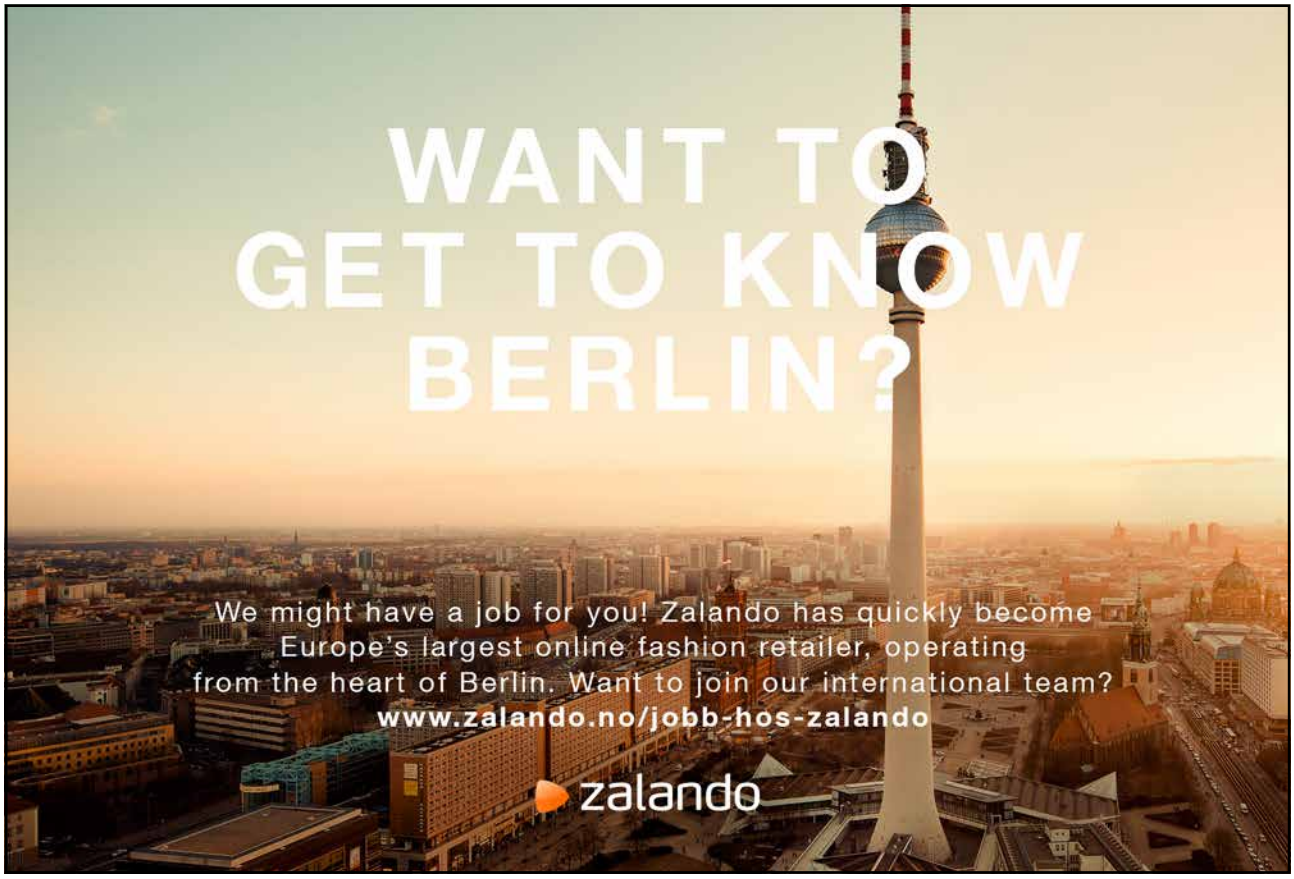
- Click in the entry box.
- In the entry box, edit the cell contents.
- Press **Enter**

☞ To edit task details using the Task Information dialog box:

- Double-click the Network Diagram box for which you want to enter information.

  OR

- Select the Network Diagram box for which you want to enter information, and on the Standard toolbar, click the Task Information button.



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- Select the appropriate tab.
- Make the necessary changes.
- Choose OK.

7.6 Tracking Progress

Viewing the Gantt Chart

This is the best visual picture of how the project is progressing.

Examining the use of resources - Viewing the Resource Sheet

Where it is necessary to view all the resources, this is best done in the top part of the screen or a single pane view. Selecting **Resource Sheet** from the **View** menu will show a complete list of the resources required by the tasks.

A valuable feature in this view is that those resources that have been over allocated will be shown in a different colour so attention is drawn to the areas that need to be changed.

Viewing the Resource Graph

The best use of this view is in the lower pane with the Gantt Chart at the top.

The Resource Graph will only show one resource at a time and will automatically switch to the resource allocated to the task highlighted in the top pane.

The value of this view is it enables the times that a resource is over allocated to be identified easily.

Viewing Resource Usage

Where this view is selected in a single pane or the top pane it will display a list of the resources and the amount of work each is allocated on a daily basis. As with the Resource Sheet those resources that are over allocated are shown in a different colour and can easily be identified.

If this view is selected in the lower pane of a two pane screen it will only display the work for the task that is highlighted in the upper pane.

Viewing the Details of a Single Resource

In any of the above views it is possible to examine the full details of a single resource by placing the pointer on the resources and calling up the Resource Edit Form by pressing the form button on the tool bar.

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7.7 The Gantt Chart and the Critical Path

This is the selection of tasks that together directly effect the completion date of the project.

This is because of the way the tasks are linked. If any of the tasks slip then this will be directly reflected in the completion date.

Modifying the Project to Match Resources

When a project is first planned, one of the checks that must be made is that the resources are not over allocated. The previous topic showed how the system could be used to locate over allocated resources.

To remedy an over allocation there are three alternatives as follows:

- The capacity of the over allocated resource can be increased to eliminate the over allocation.
- The time scale of the tasks involved in the problem can be changed to eliminate the over allocation.
- The amount of resource used can be shortened by using a factor for the amount of actual time spent **e.g.** using **[0.5]** for half.

Increasing the Capacity of a Resource.

This is simple to do in any view in which the available units for a resource can be seen. The respective value can be increased as required.

Where the units are not shown the pointer should be placed on the resource and the Resource Edit Form selected by pressing the form button in the tool bar. The dialogue box will include the number or units which can be changed.

Re-Scheduling the Tasks to use the available resource capacity.

This is known as Levelling and there is a command to make this happen. It is in the **Tools** pull down menu and is the **Resource Levelling** command.

Levelling

This command will display a dialogue box with a number of options: -

Automatic: Select if you always want over allocation to be eliminated automatically.

Manual: Select if Levelling is to be applied by the user.

Delay only within slack:

Where this is selected the levelling will only happen within the existing time scale and will not put the completion date back.

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Automatically Remove Delay:

This option will automatically remove any existing delay first; otherwise any new delay is added.

Order:

This section provides the selection of the order in which the levelling will take place. The three options are:

- **ID Only** This will set the levelling to work only by higher ID numbers.
- **Standard** With this selected the system will consider predecessor relationships, slack, dates, and priority to decide where the delays will be placed
- **Priority, Standard** This option will consider the task priorities first before using the standard criteria for levelling.



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7.8 Define an Update Point

Determine a date approximately a third through the project at which the early tasks can be updated.

Complete the following table to define which tasks will be updated and what happened to them.

ID	Task Name	Actual Start Date	Actual End Date	% Com	Actual Duration	Remaining Duration

7.9 Updating the Project

☞ Updating the Project

- Select the **Task Sheet** from the **View** menu.
- Update some of the tasks from the data in the table above.
- Update some of the Tasks by using the **Update Task Form.**

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☞ Check the Timescale

- Select the **Gantt Chart** from the **View** menu and make this a full screen view.
- Examine the task time scales and check for problems.

☞ Check the Resources

- Using a full screen, select the Resource Usage view from the View menu
- Check for over utilised resources.
- Select Task Entry from the View menu.
- In the lower pane select Resource Graph from the View menu.
- By highlighting each task in turn check the use of the respective resource.

☞ Making Changes to meet Project Completion Criteria

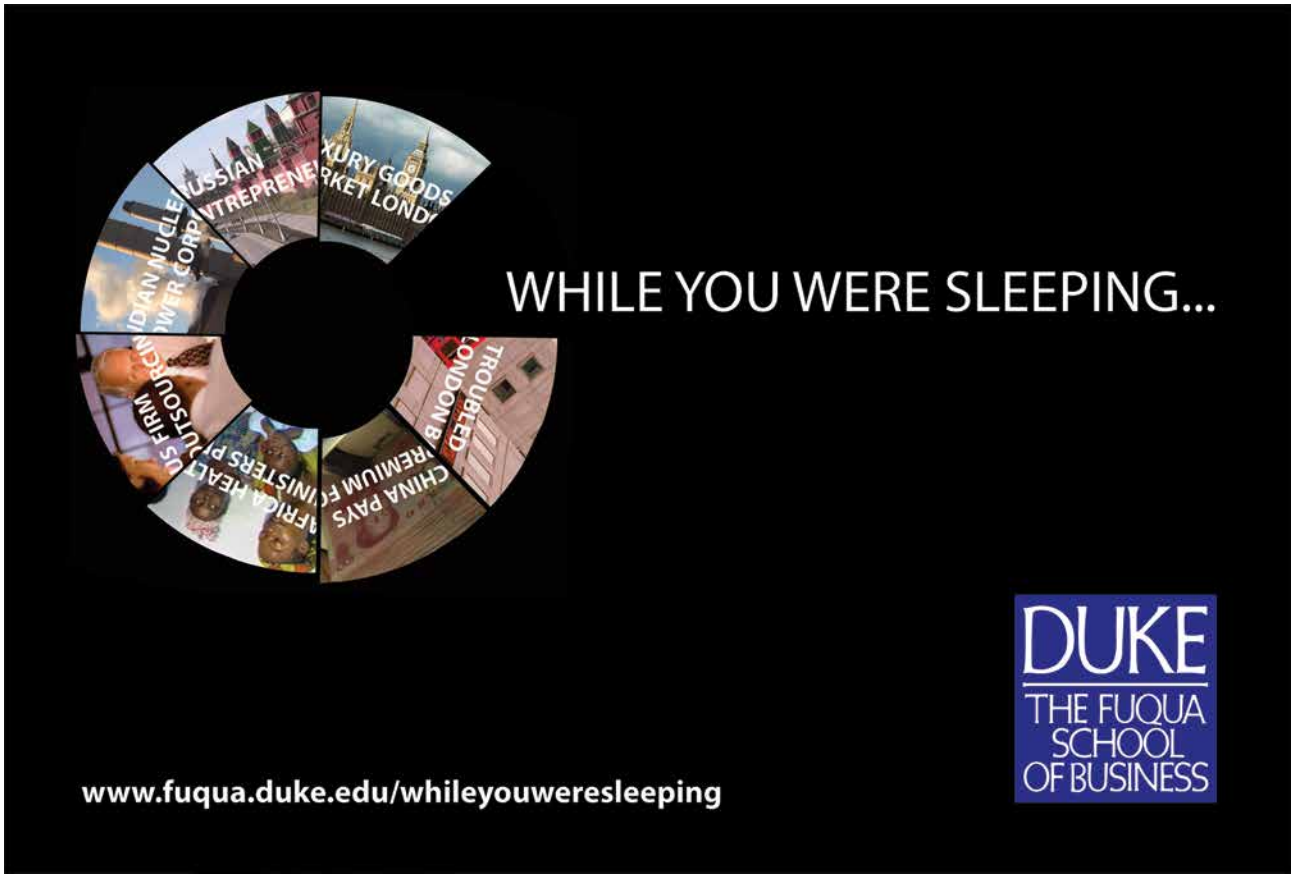
- Modify a task or tasks to change the completion date of the project and check the effects of the changes to cost.

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Section 8 Multiple Projects

At the end of this section you will have:

- **Set up a common resource**
- **Created sub projects.**
- **Consolidated projects.**
- **Created and managed task relationships**
- **Inserted a recurring task.**
- **Created a macro.**



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8.1 Using Common Resources

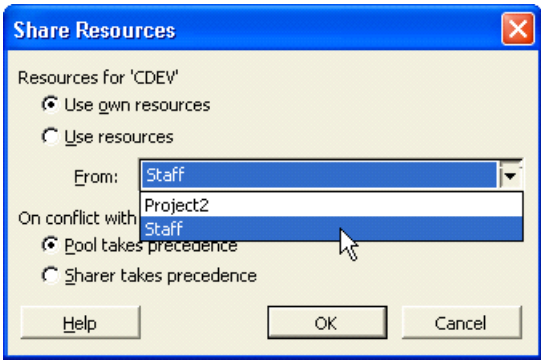
When you have several projects running using a common pool of staff, it is essential that you are aware of any conflicts arising due to a staff member being assigned to conflicting tasks or unavailable due to other commitments.

MS Project allows you to set up your project so that you share resources and can be warned of any such conflicts.

One of the easiest ways is to set up a Staff project and add non-project tasks to this. Any new project created will use the resources of this and show over assignments if these occur.

☞ Set up a Resource Project

- Set up a new project entering only items which are **not** relevant to any of your main projects. e.g. Training Course etc.
- Save as **Staff.MPP**.
- Open project **CDEV.MPP**.
- Select **Tools, resources, Share Resources**.



- Select **Staff.MPP** as the file.
- Check for any resource over allocations.

8.2 Adding Sub Projects

When you have very a large project to manage it may be useful to have some parts split into one or more **sub projects**. These can be inserted into the main project at the appropriate point.

This can also be used where some steps in the project are repeated.

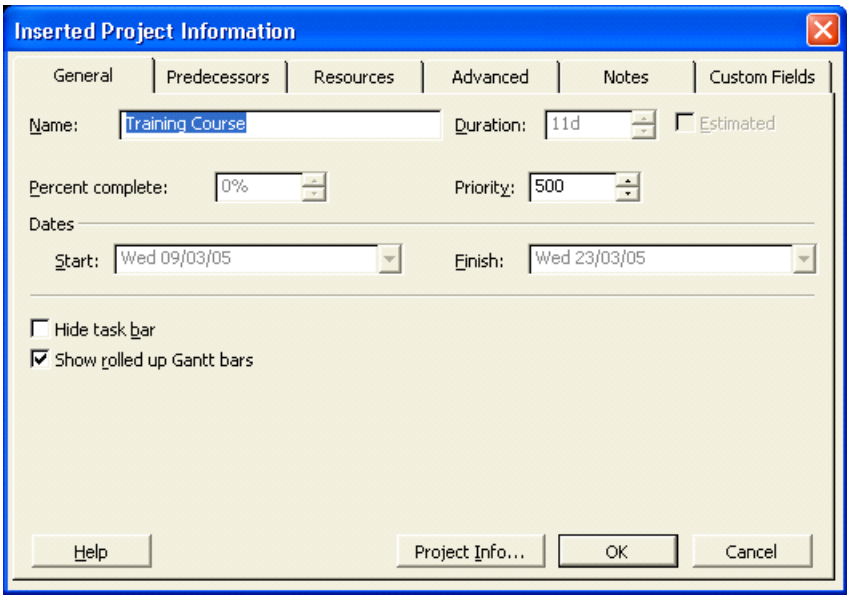
☞ Inserting projects into Projects

By inserting individual project files into a existing project, you can view, print, or change information for the projects you're working with as though they were a single project.

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- Open a new or existing project file.
- On the **View** Bar, click Gantt Chart .
- In the Task Name field, click the row above which you want to insert the project.
  Note: You can insert a project at any level of the outline.

- On the Insert menu, click Project.
- In the Look in box, click the drive or folder that contains the project file.
- In the folder list, open the folder that contains the project file you want.
- If you cannot find the project in the folder list, you can search for it.
- Double-click the inserted project as if were a task. Now change the insert project options you want.



- If you don't want the inserted project to be linked to its source project, clear the Link to Project check box. By default, this option is selected.
- If you don't want changes to the inserted project to be made in its source project, select the Read Only check box. By default, this option is cleared.
- If you want the inserted project's tasks to be displayed in the consolidated project, clear the Hide Subtasks check box. By default, this option is selected. You can also choose to hide or show tasks after you've inserted the project.
- To insert two or more projects at the same time, hold down CTRL as you click each project.

Note: After you've inserted a project, you can quickly show an inserted project's hidden subtasks by clicking the summary task's outline symbol. Outline symbols indicate whether a summary task has subtasks displayed or does not have subtasks displayed

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☞ Create and Add a Sub Project

- Create a new project based on course development only.
- Save as **CD Sub Project.MPP**.
- Create a new project based on section 2 except at the point of adding the task 'course development', insert **CD Sub Project.MPP** as a sub project.

Consolidating Projects

Another way of organising your work, especially if you are monitoring several projects at once, is to consolidate them into a single multi-project file.

You can create a consolidated project by inserting copies of individual projects at any outline level into a single project file. With a consolidated project, you can view, print, and change information for all the projects you're working with (and even those projects "owned" by other project managers) as though they were a single project.

Create hierarchies

You can also organize your inserted projects into a hierarchy to better see how the different parts fit together. Each project in the hierarchy contains links to the inserted projects below it and is connected as an inserted project to the one above it. This way, you can isolate and manage smaller chunks of your project with greater efficiency.



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Keep information up-to-date

When the copies of individual projects within a consolidated project are linked to their original projects, any changes to the information in the consolidated project file are also made automatically in the corresponding original files. Likewise, if you change information in an original file, the corresponding information is changed in the consolidated file automatically.

Make a consolidated project quickly for printing

If you don't want changes to the consolidated project file to affect the source files, you can create and save a consolidated project file in which the copies of each project are not linked to their source files. You might want to do this, for example, if you're simply combining projects to generate a quick report. You can also unlink the source files after you create the consolidated project file or consolidate copies of the source files from the start.

☞ Consolidate Relevant Projects

- Open CDEV.MPP and save as CDEV1.MPP, CDEV2.MPP and CDEV3.MPP.
- On the Window menu, click New Window.
- Hold down CRTL, and then click each of the above projects..
- View the consolidated project file.

☞ Shortcuts

- To move to the beginning of a project press **CTRL+HOME.**
- To move to the beginning of a project, drag the vertical scroll bar to the top of the scrolling region.
- Use **CTRL+HOME** to go to task 1.

Consolidating Projects created in earlier versions of MS Project

When you open a Microsoft Project 4.0 or 4.1 consolidated project, the consolidated project file is automatically converted to a Microsoft Project 2003 consolidated project file using inserted projects. For each individual project included in the consolidated project file, Microsoft Project creates an inserted project at the top outline level. The read-only settings for each inserted project are set according to the settings for the consolidated project.

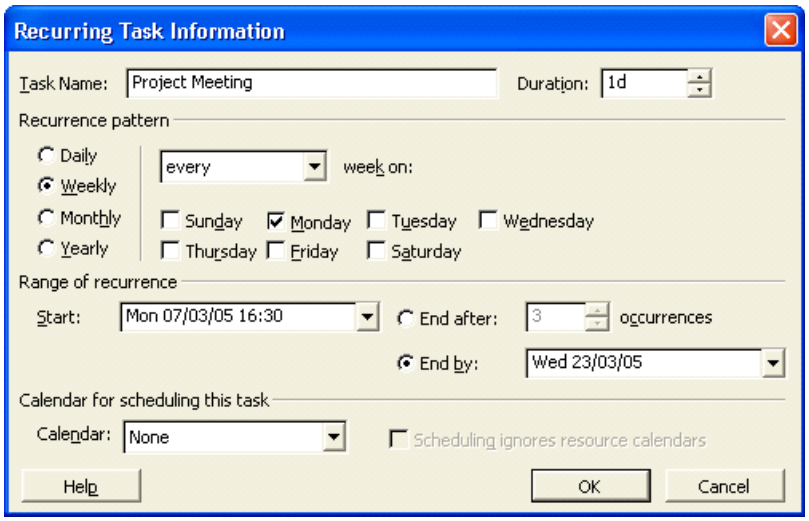
8.3 Recurring Tasks

Where a task occurs on a regular basis **MS Project** allows you to insert it as a **Recurring Task.**

☞ Adding a Recurring Task.

- Select a blank task row.
- Select **Insert, Recurring task**.

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- Add the task **"Project Meeting"** and schedule as daily.
- After the start date include the time **16:30**. This will show the meeting occurring at 4.30pm.
- Examine the other options.

☞ Edit a Recurring Task

- Double-click the recurring task.

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☞ Delete a Recurring Task

- Right-click the task and choose Delete Task.

8.4 Task Relationships

Why use task relationships?

By using different types of task relationships, you can make your project more efficient and possibly end the project sooner.

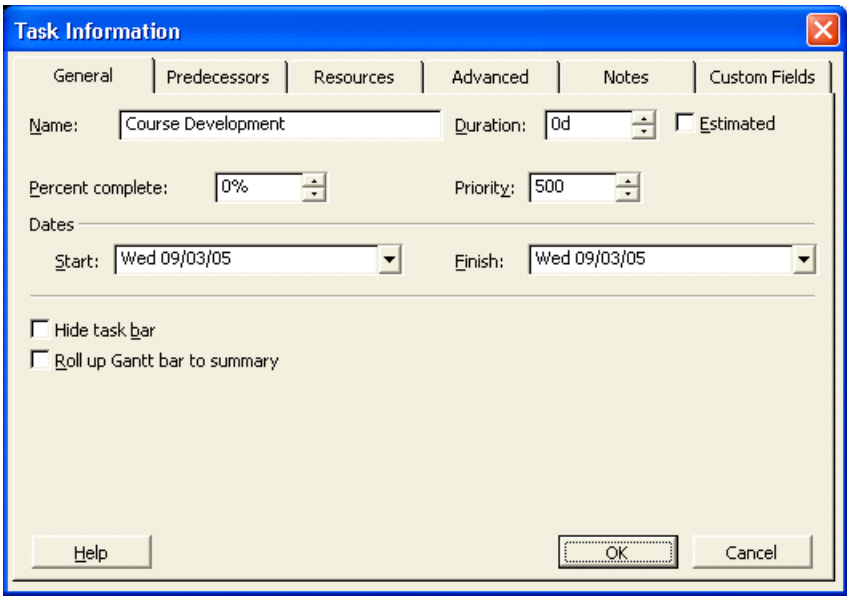
All tasks in Project have one of four *relationships* to other tasks. By defining these task relationships, described in the table below, the project planner can determine how long the project will take. Finish-to-start is the default task relationship.

Relationship	Description	Gantt Bar Chart Display
Finish-to-start (FS)	Task starts when its predecessor finishes.	
Start-to-start (SS)	Task starts when its predecessor starts.	
Finish-to-finish (FF)	Task finishes when its predecessor finishes.	
Start-to-finish (SF)	Task finishes when its predecessor starts.	

Using the Task Information Dialog Box

Microsoft Project tracks so many fields that you could not possibly display them all on the Gantt Chart. You can use the Task Information dialog box to add new tasks; however, it is more often used to update information for selected tasks. It is available on most task views, including the Gantt Chart, Network Diagram Chart, Task Sheet, and task forms. As shown in the illustration on the next page, the Task Information dialog box is broken down into five sets of options: General, Predecessors, Resources, Advanced, and Notes. These sets of options can be accessed by selecting the appropriate tab.

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The Task Information Dialog Box

☞ To use the Task Information dialog box to update task information:

- Select the task you want to update.
- From the Insert menu, choose Task Information.

OR

- On the Standard toolbar, click the Information button.

OR

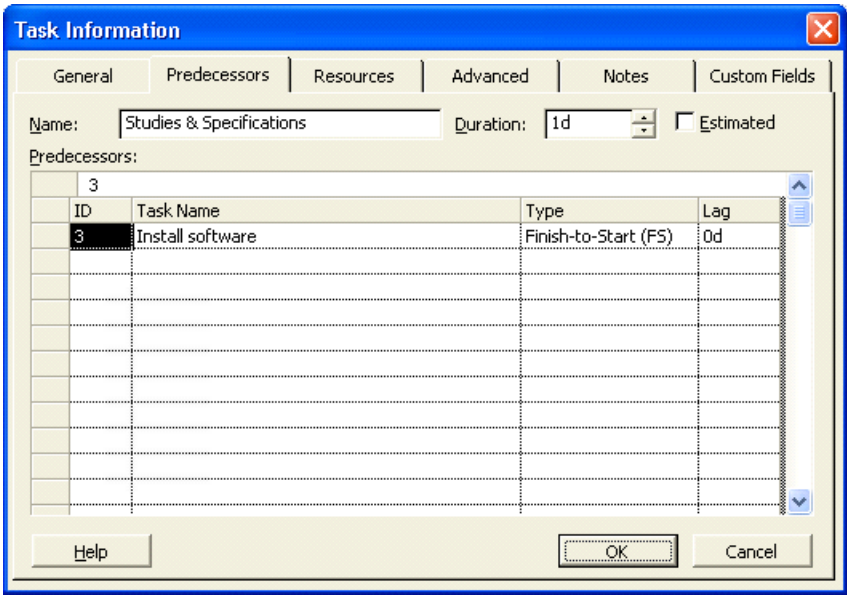
- If the task is not a summary task, double-click the task.
- Select the appropriate tab.
- Make the necessary changes.
- Choose OK.

As with Gantt Charts, when initially entered, all tasks start on the same date, which is the project start date. Defining task relationships allows the project planner to determine how long the project will take. On the Network Diagram Chart, you can easily link, unlink, and modify tasks.

8.5 More on Linking Tasks

If the task relationship is a straightforward finish-to-start relationship, then you can easily link tasks by clicking and dragging. You should, however, use the Predecessors options of the Task Information dialog box if the relationship is anything other than finish-to-start. You should also use the Predecessors options if there is a great distance between the two tasks and it does not make sense to click and drag. The Predecessors tab of the Task Information dialog box is illustrated below.

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☞ Link tasks by clicking and dragging

- Point to the center of the predecessor Network Diagram box.
- Drag to the successor Network Diagram box.

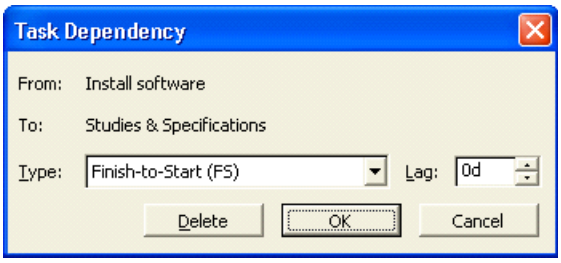
☞ Link tasks using the Task Information dialog box

- Double-click the successor task.
- Select the Predecessors tab.
- In the Predecessors area, select the first blank Task Name field.
- From the entry bar drop-down list, select the task to make a predecessor task.
- Select the Type field for the predecessor task to change.
- From the entry bar drop-down list, select a type of relationship.
- Choose OK.

8.6 Modifying and Deleting Task Relationships

Once you enter various tasks and establish relationships, you may need to change or even delete the tasks and their relationships. The Task Dependency dialog box, shown below, is one of the dialog boxes that you can use to modify or delete tasks. You can also use the Task Information dialog box to modify or delete task relationships.

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☞ To modify task relationships using the Task Dependency dialog box:

- Double-click the link line between the two Network Diagram boxes.
- Make the necessary changes to the type of relationship and/or the lag time.
- Choose OK.

☞ To delete task relationships using the Task Dependency dialog box:

- Double-click the link line between the two Network Diagram boxes.
- Choose Delete.



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☞ To modify task relationships using the Task Information dialog box:

- Double-click the successor task.
- Select the Predecessors tab.
- Select the appropriate cell of the predecessor task.
- Make the necessary changes.
- Choose OK.

☞ To delete task relationships using the Task Information dialog box:

- Double-click the successor task.
- Select the Predecessors tab.
- Select the predecessor's ID.
- PresS **DELETE**
- Choose OK.

8.7 Deleting Tasks

As well as being able to modify tasks while you make changes to your projects, you can also delete tasks.

☞ To delete a task:

- Select a task to delete.
- Press **DELETE**

OR

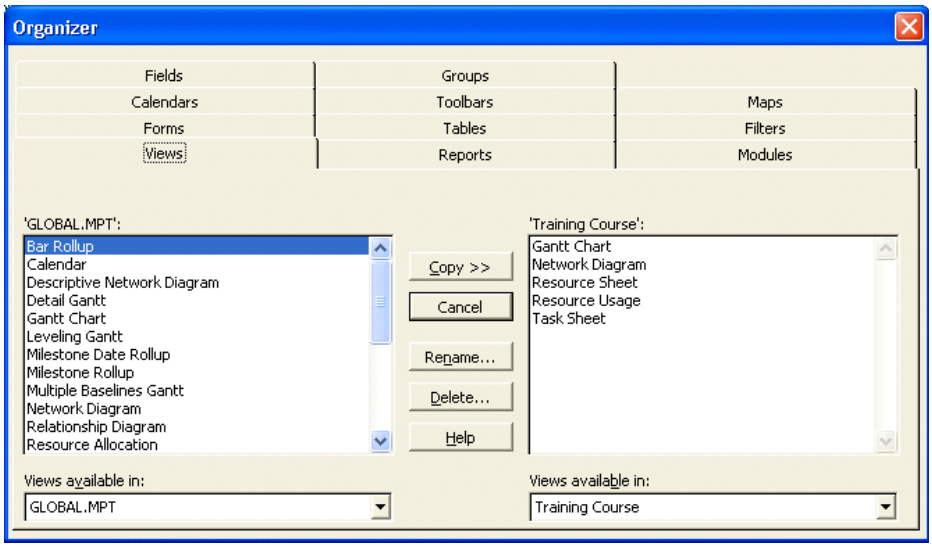
- From the Edit menu, choose Delete Task.

8.8 The Organizer

The Organizer (sic) is the tabbed dialog box in which you can copy custom views, tables, filters, calendars, reports, forms, toolbars, maps, and Microsoft Visual Basic for Applications sections (macro containers) to other documents and to other users.

Typically, any changes you make to views, tables, filters, calendars, reports, and forms are local; that is, they take place only in the active project file. When opened, a new project file shows the original Microsoft Project defaults for those elements, which are saved in the global file. However, any changes you make to toolbars, menus, and import/export maps are global; that is, the changes are made to the global file and apply to all project files on your computer. When you open a new project file, it reflects your customized toolbars and menus. When you change format settings (such as bold, italic, colour, or bar shape), those settings apply only to the active project file and not to other project files on your computer. Changes you make to Visual Basic sections can be either global or local, according to your preference.

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If you have **any** customized Microsoft Project settings on your computer it's a good idea to share these elements with other projects using the Organizer. You may want to do this if you're standardizing a workgroup or an entire corporation with custom settings. You may also want to do this to save time.

Using the Organizer, you can copy customized elements from your global file to another project that is open on your computer. You can also use the Organizer to delete any of these elements.

8.9 Create a Custom toolbar button

This is a relatively easy exercise which rests on the assumption that somewhere there does exist a button that launches the Organizer.

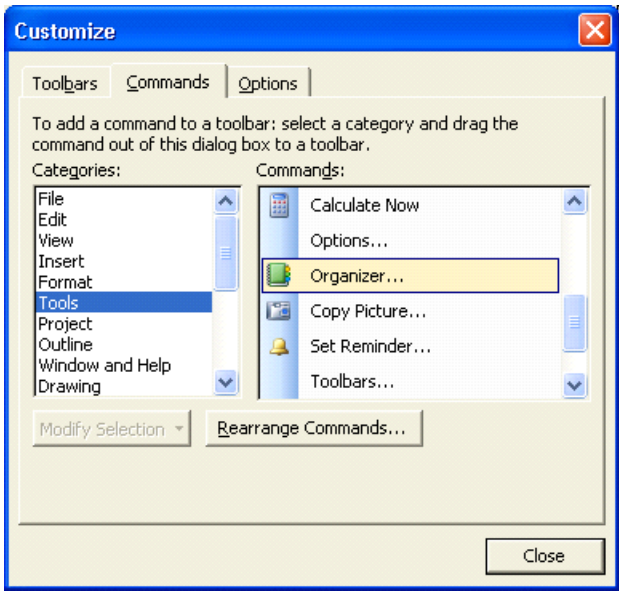
☞ To Customise the toolbars

- Select View, Toolbars, Customize.
- Select the Commands tab.
- You can now drag buttons to/from the toolbars.
- When you've finished, click **Close**.

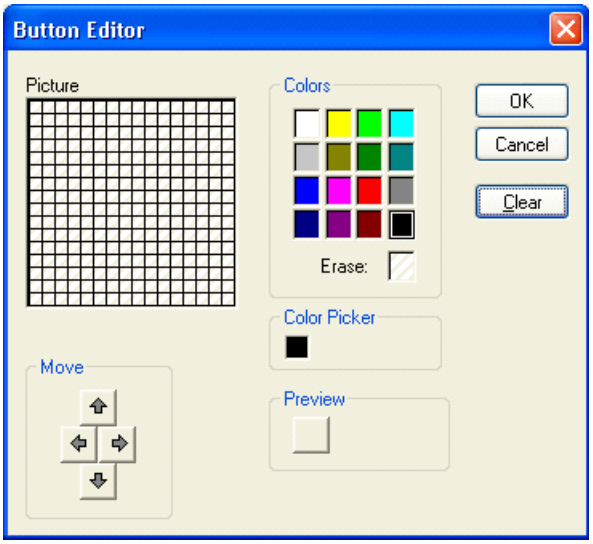
☞ Add a button and then edit its appearance

- Open the Customize dialog box.
- Click the **Commands** tab.
- Locate the Organizer button.
- Confirm it will do what it's supposed to by clicking **Description**.

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- Drag the button to a toolbar, between two existing buttons.
- Right click the mouse on the Organizer toolbar button.
- Select **Edit Button Image** from the pop-up menu.
- Design your own button using your mouse and the colour palette.
- Click on OK.
- In the Command List select Organiser.
- Enter the word Organiser in the ToolTip: box.
- Click on OK.

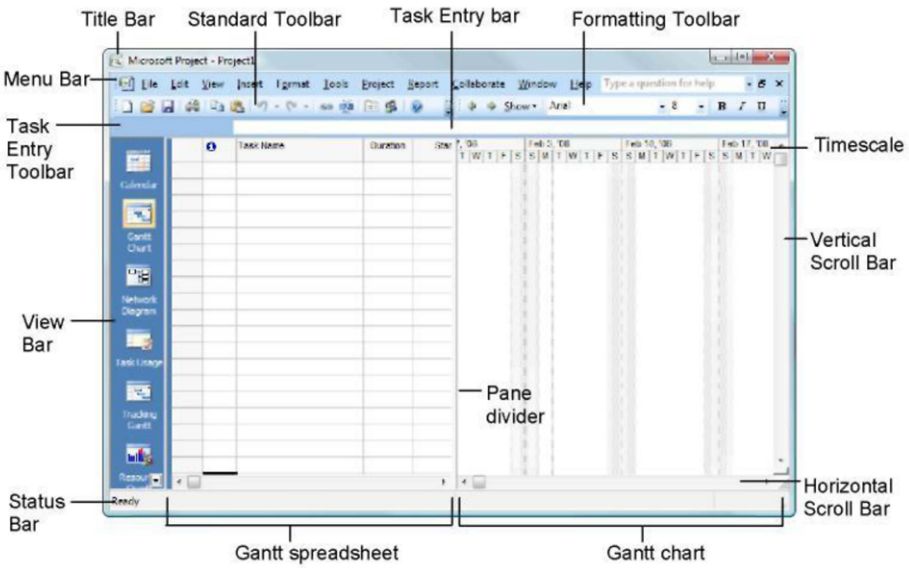


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Project 2007 Training

Quick Reference Card

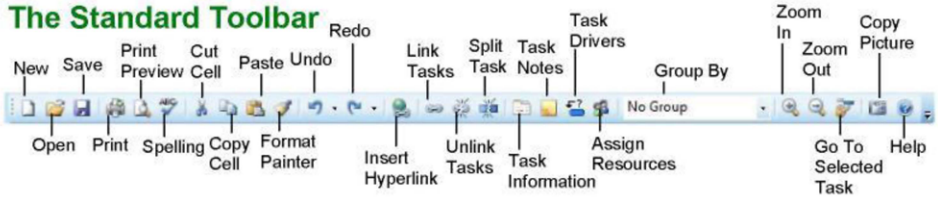
Project 2007 Screen



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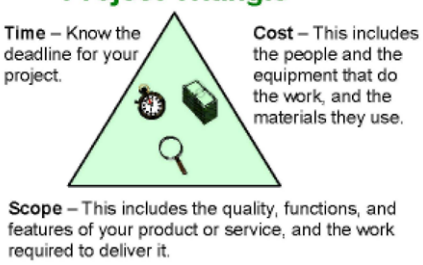
The Fundamentals

The Standard Toolbar



- **To Create a New Project:** Click the **New** button on the Standard toolbar, or select **File** → **New** from the menu, or press **<Ctrl>** + **<N>**.
- **To Use a Template:** Select **File** → **New** from the menu, click the **On my computer** link in the task pane and select a template in the dialog box.
- **To View Information About the Project:** Select **Project** → **Project Information** from the menu.
- **Set the Working Time Calendar:** Select **Tools** → **Change Working Time** from the menu. Select the date(s) you want to change and select a new calendar, or enter the new working hours in the **From:** and **To:** boxes.
- **To Use Spelling, Undo and Redo:** Click the **Spelling** button, **Undo** button and **Redo** button on the Standard toolbar.
- **To Open the Timescale Dialog Box:** Select **Format** → **Timescale** from the menu, or double-click inside the timescale header.
- **To Adjust the Timescale:** Change the options in the Timescale dialog box, or select **View** → **Zoom** from the menu and select the time scale you want to view.
- **To Save a Project File:** Click the **Save** button on the Standard toolbar, select **File -> Save** from the menu, or press **<Ctrl>** + **<S>**.
- **To Save a Baseline Plan:** Select **Tools -> Tracking -> Save Baseline** from the menu. Click the **Save Baseline** option, save the plan for the entire project or selected tasks, click **OK**.
- **To Save an Interim Plan:** Select **Tools ^ Tracking -> Set Baseline** from the menu. Click the **Save Interim plan** option, name the plan, save the plan for the entire project or selected tasks, and click **OK**.
- **To Show or Hide the Project Guide:** Select **View -> Turn on Project Guide** or **Turn off Project Guide** the menu.
- **To Show or Hide the View Bar:** Select **View -> View Bar** from the menu.
- **To View a Task's Chart bar:** Select the task and click the **Go To Selected Task** button on the Standard toolbar.
- **To Get Help:** Press **<F1>** to open the Project Help task pane, type your question, and click the **H Start searching** button.

Project Triangle



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Keystroke Shortcuts

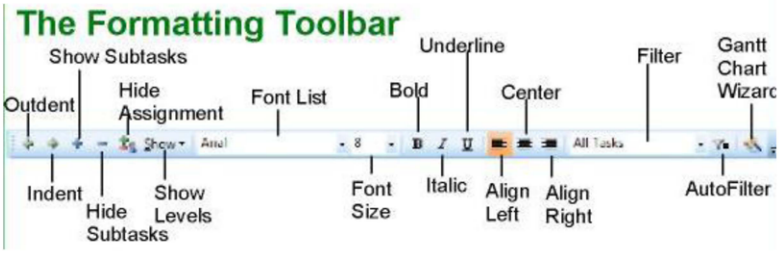
Task Information	**<Shift> + <F2>**
Assign Resources	**<Alt> + <F10>**
Copy	**<Ctrl> + <C>**
Cut	**<Ctrl> + <X>**
Paste	**<Ctrl> + <V>**
Help	**<F1>**
View Context-Sensitive Help	**<Shift> + <F1>**
Go To Selected Task	**<Ctrl> + <Shift> + <F5>**
Link Selected Task	**<Ctrl> + <F2>**
Unlink Selected Task	**<Ctrl> + <Shift> + <F2>**
Create a Hyperlink	**<Ctrl> + <K>**
Zoom In	**<Ctrl>+ </>**
Zoom Out	**<Ctrl> + + < * >**
Undo/Redo	**<Ctrl> + <Z>**
Bold	**<Ctrl> + <B>**
Italics	**<Ctrl> + <I>**
Underline	**<Ctrl> + <U>**

Plan and Manage the Project

- There are six basic steps to follow when planning a project: (1) Define a project (2) Plan project activities (3) Plan for and gather resources (4) Plan project costs (5) Plan for quality and risks (6) Plan security and communication.
- Project management is the process of planning, organizing, and managing tasks and resources to accomplish an objective within constraints of time, resources, or cost.
- Adjusting one constraint of the Project Triangle affects the other two.

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Working with Tasks



- **To Enter a Task:** Type the task's name in the Task Name column and press **<Enter>**.
- **To Enter a Duration:** Type the duration (m = minutes; h = hours; d = days; w = weeks; mo = months) in the Duration column and press **<Enter>**.
- **To Create a Milestone:** Enter 0 (zero) in the Duration column. Or, click the **Task Information** button and select the **Advanced** tab, click the **Mark task as Milestone** check box and click **OK**.
- **To Create a Recurring Task:** Select **Insert → Recurring Task** from the menu, enter information into the Recurring Task Information dialog box, and click **OK**.
- **To Access Task Information:** Select the task and click the **Task Information** button on the Standard toolbar. Or, press **<Ctrl> + <F2>**
- **To Organize the Task List:** Create summary tasks and subtasks by selecting the task(s) and clicking the **Outdent** or **Indent** button on the Formatting toolbar.
- **To Link Tasks:** Press **<Ctrl>** and select the two tasks you want to link in the order that you want to link them and click the **Link Tasks** button.
- **To Unlink Tasks:** Press **<Ctrl>** and select two linked tasks in the order they are linked. Click the **Unlink Tasks** button.
- **To Split a Task:** Select the task, click the **Split** button, and use the dividing tool to split the task's Gantt bar.
- **To Enter Lag or Lead Time:** Click the successor task, and click the **Task Information** button. Click the **Predecessors** tab and enter a lead time with a (-) minus sign, or lag time with a (+) plus sign in the **Lag** box.
- **To Enter a Task Deadline or Constraint:** Click the task to which you want to add a deadline and click the **Task Information** button. Click the **Advanced** tab, and enter a deadline into the Deadline box, or choose the constraint you want to use, and enter the Constraint date.
- **To Assign a Task Calendar:** Select the task, click the **Task Information** button and click the **Advanced** tab. Click the **Calendar** list arrow and

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select a calendar from the drop-down list.

- **To Apply a Filter:** Click the **Filter** list arrow on the Formatting toolbar and select the filter you want to apply to the project.

Working with Resources and Costs

- Buttons on the Standard and Formatting toolbars change for resources in resource views. Enter and work with resources just as you would with tasks.
- **To Enter Resource Availability:** Click the **Resource Information** button on the Standard toolbar. Enter the Available To and Available From dates in the Resource Availability table, and enter the Maximum Units available in the Units field.
  - **To Assign a Resource:** Select a task and click the **Assign Resources** button, select the resource(s) and click **Assign**.
  - **To Enter Costs:** In a resource view, enter amounts in the **Std. Rate** field, the **Ovt. Rate** field, or the **Cost/Use** field. Then choose when you'd like to begin accruing the resource cost in the **Accrue At** field.
- **To Enter Fixed Costs:** Select **View → Gantt Chart** from the menu and select **View → Table → Cost** from the menu. Select the task for which you want to enter a fixed cost and type the cost in the Fixed Cost field.

Viewing the Project

- **Applying a Split View:** Select **Window → Split** from the menu and select the view you want to display in the bottom pane.
- **Applying Filters:** Select **Project → Filtered for** from the menu and then choose the filter type you want to use.
- **Applying Tables:** Select **View → Table** from the menu, and select the table you want to view.
- **Sort the Information:** Select **Project → Sort**, and then choose a sorting option.
- **View the Critical Path:** Select **View → More Views**, select **Detail Gantt** from the dialog box and click **Apply**.

Balancing the Project

- **To Identify an Overallocated Resource:** Open **Resource Usage** view and select **Project → Filtered For → Overallocated Resources** from the menu.
- **To Balance Overallocated Resources Automatically:** Select **Tools → Level Resources** from the menu. Click the **Automatic** bullet and the **Level Entire Project** bullet, then click the **Level Now** button. Click the **Entire Pool** option and click **OK**.
- **To Reassign Work:** Open **Gantt Chart** view, select the overallocated resource and click the **Assign Resources button**. Select the overallocated resource, click the **Remove** button, select another resource and click **Assign**.